Purchasing Week

McGRAW-HILL'S NATIONAL NEWSPAPER OF PURCHASING

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Vol. 2 No. 24 New York, N. Y., June 15, 1959 $6 A YEAR U.S. AND CANADA $25 A YEAR FOREIGN

Industry Facing Steel Strike with 2-Mo. Supply

3,000 Delegates Set for N.A.P.A. Nat'l Convention

New York—More than 3,000 delegates geared for three days of "Space Age" activity today as the 44th annual convention of the National Association of Purchasing Agents opened at the Waldorf-Astoria.

Tuned to "practical purchasing in the space age," the convention speeches, panel discussions and group meetings will cover subjects ranging from "Practical Tools for Better Inventory Decisions" to "Survival of the Purchasing Agent in the Space Age."

Convention activities opened yesterday with the Inform-A-Show in which 38 major corporations are represented. Official sessions were to begin this morning with keynote addresses by

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Air Force Tightening Review of Estimates From Contractors

Washington—Prodded by Congress and the General Accounting Office, the Air Force is tightening up review of price proposals and cost estimates submitted by its many procurement contractors.

The Air Force is hiring 203 new auditors to make tighter verification of such figures. It also plans to play a more active role in price negotiations between its prime contractors and their subcontractors.

The new controls were prompted by G.A.O. charges that "deficiencies" in Air Force con-

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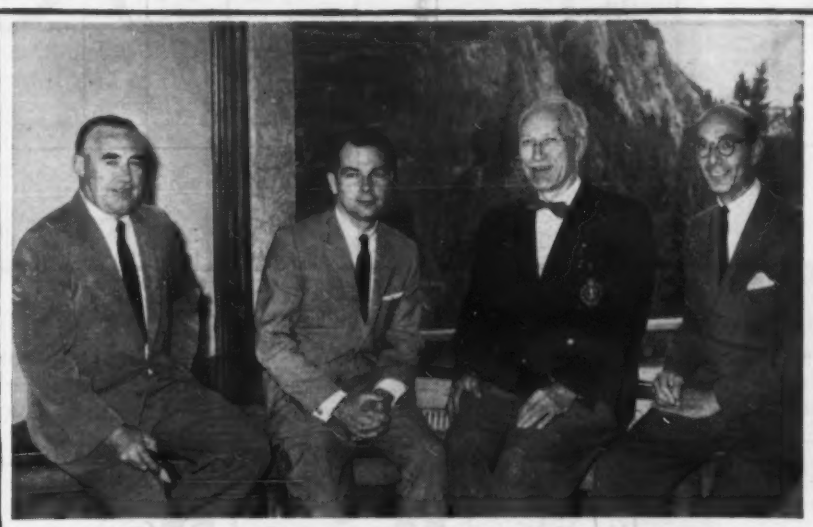

CANADIAN P.A.'S installed Hector D. Wright, third from left, of the E. B. Eddy Co., at their 1959 convention in the Rockies. Shown above with Wright are: left, retiring president Geoffrey L. Haszard, vice president Alfred Oliver, and William Small, C.A.P.A. executive secretary.

Canadian Purchasing Conference Installs H. D. Wright to Presidency

Banff, Alta—Canadian purchasing executives, who have been under recent "buy in Canada" pressures, were urged to keep their sights at the international level at the 34th Canadian Purchasing Conference.

The conference, which drew more than 800 Canadian P.A.'s to this Rocky Mountain resort June 5-7, stressed the increasing international character and responsibilities of industrial buying.

Charles F. Huebner, president of Great Britain's Purchasing Officers' Association, compared buying within a single country to buying from a single supplier in industry.

While many companies produce a wide range of products Huebner explained, all those products are not produced with maximum efficiency at the most

(*Turn to page* 9, *column* 1)

Next Year, Detroit

Banff, Alta.—The Canadian Association of Purchasing Agents will hold its 1960 convention in United States.

The Essex-Kent association of Windsor, Ont., will host next year's meeting, but with Windsor lacking adequate convention facilities, a decision was made to hold the convention in Detroit.

Copper Strike Seen An Improbability By Industrial Leaders

Salt Lake City—The easy-going atmosphere which marked copper industry negotiations in the early stages allayed fears of an industry-wide strike when contracts expire June 30.

Observers close to key Kennecott negotiations here said last week they considered a general walkout at contract deadline improbable. Both sides appeared willing to let a steel industry settlement be their guide.

An early settlement in steel

(*Turn to page* 49, *column* 1)

Aluminum Producers To Change Quoting To Delivered-Price

San Francisco—Major aluminum producers are changing their method of quoting prices to eliminate "obvious and multitudinous abuses" of transportation allowances.

Producers currently quote prices f.o.b. shipping point—with freight costs to the customer's plant or specified destination then "allowed or deducted." Effective July 1, however, most will change

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This Week's

Purchasing Perspective

JUNE 15-21

Memo from a conventioning P.A. to his company president:

Dear Boss—Left about a week early to test the economic climate in New York. Just like the weather, it's hot. Things are as good here as back home—just like I've been telling you.

In short, the business outlook is fine . . . and getting better.

But knowing you, your vacation in the mountains next week will be a bust unless you have something to worry about. Well, I can accommodate you. Here's my personal list of short-term worries, guaranteed to siphon off the excess energy of someone who's uneasy because everything is going so well.

Inventories—Fuss if you want to. But I know we're pretty well fixed. **What's more, I'm not so sure now a steel strike would last too long anyhow.** Hints of a pay compromise were dropped last week; and I know the boys are talking plenty (I've got a room on the 12th floor at the Roosevelt, just down the hall from the suite where the negotiators meet).

But if it's the big picture you're worried about, just remember

(*Turn to page* 49, *column* 1)

P.W. Survey Reveals U. S. Industry Cross-Section Stocked Steel for at Least 60 Days Production But Some Metalworking Firms May Be Short Sooner

New York—A major cross-section of U. S. industry faces the July 1 steel strike threat confident it has inventoried at least 60 days of strike-proof production needs.

Many manufacturers, particularly those in various segments of metalworking and the industrial equipment field, indicated to PURCHASING WEEK that their troubles probably would begin much sooner—some in a month or less following the strike deadline.

A Purchasing Week Survey

But the majority who gave a fairly comfortable picture of their positions indicated they were leaning heavily on "firm" delivery promises from suppliers—as well as their own stockpiles of steel and component parts—to carry them through rocky times.

A PURCHASING WEEK survey, conducted among hundreds of P.A's in key industries from coast-to-coast, also revealed:

- Purchasing departments are setting their sights high in third quarter buying plans. If threatened strikes fail to materialize in basic industries, 56% indicated they will let present inventory levels ride and continue buying at a pace geared to production needs. The remainder indicated they would work off some or all strike-hedge inventories first.

- While some buyers built up substantial backlogs of supplies during a six-months' steel-buying

(*Turn to page* 50, *column* 4)

Industry Enlarging Plans to Spend More For Tools, Equipment

Washington—New government figures provide further confirmation of the encouragement industry is giving the business zoom by enlarging plans to spend more for new production equipment this year.

The Commerce Department-Securities & Exchange Commission second quarterly survey of new plant and equipment investment plans spotlights an increase of 7% in capital goods spending over 1958. The figure jibes with the McGraw-Hill spring report on

(*Turn to page* 50, *column* 2)

P.A.'s See Prices Up in Second Half

New York—P.A.'s are adding their voices to the growing list of experts who expect a continued price rise in the second half. Only a handful of those queried in PURCHASING WEEK's latest price survey were optimistic enough to think that the price line could be held.

An overwhelming majority of the respondents—covering a wide cross-section of the nation's purchasing profession — indicated that they were expecting a gentle to moderate rise in the price level in the months ahead.

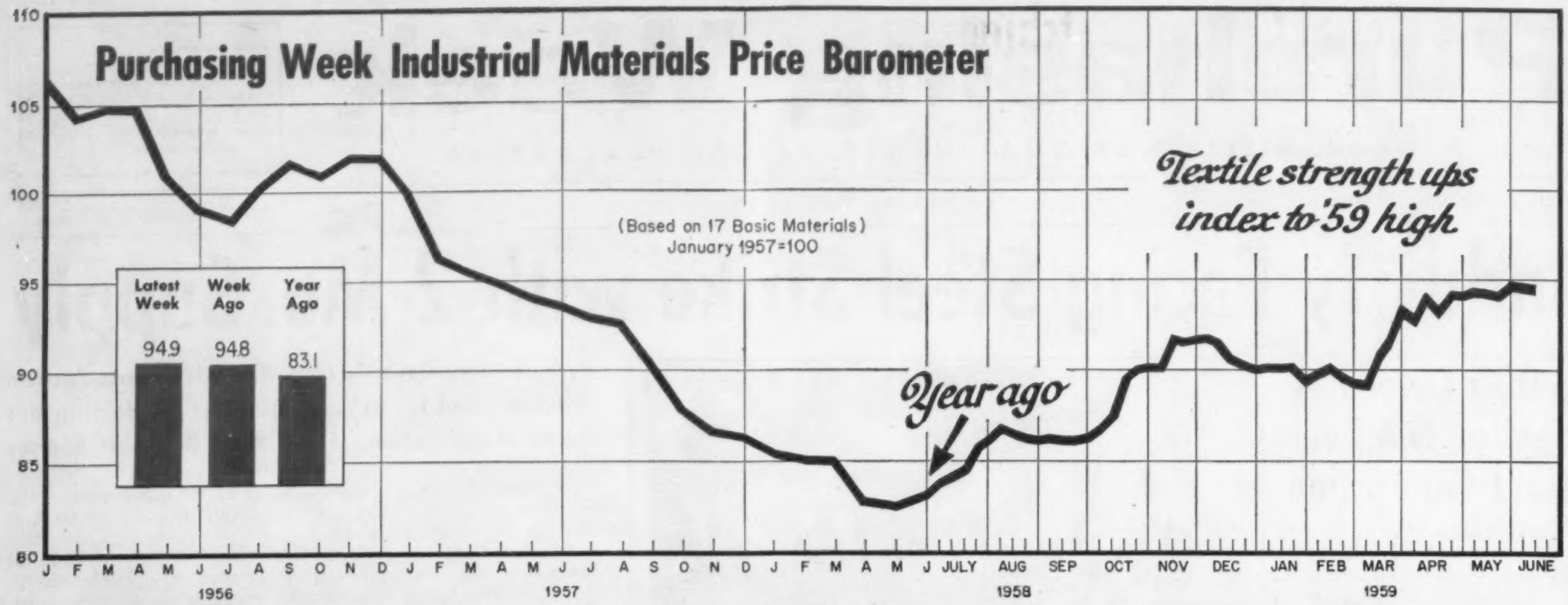
The survey—covering many facets of the current price picture—also revealed these key findings:

- **Current prices**—Almost two-thirds of the respondents said current quotations were above a year ago. Only 4% said they were below. The remaining 30% reported little change.

- **Price outlook**—On the subject of near-term outlook 47% thought a 2-4% gain was likely by year-end. Another 32% said

(*Turn to page* 49, *column* 4)

CHICAGO conference: E. A. Bromley, Canadian National Railways, right, discusses rail purchasing problems with: left, O. O. Albritton, Illinois Central; H. A. Berry, Rock Island R. R.; N.A.P.A. President Gordon Affleck, and J. H. Bean, executive secy., Assn. of American R.R.'s.



This index was designed by the McGraw-Hill Department of Economics to serve as an overall sensitive barometer of movements in industrial raw material prices. The index is not intended to give price movements of specific commodities. The items used are important only in that, together, they reflect the current general market trend in sensitive industrials. Weekly prices for most of the items covered are published in "Commodity Prices" below.

This Week's Commodity Prices

	June 10	June 3	Year Ago	% Yrly Change
METALS				
Pig iron, Bessemer, Pitts., gross ton	67.00	67.00	67.00	0
Pig iron, basic, valley, gross ton	66.00	66.00	66.00	0
Steel, billets, Pitts., net ton	80.00	80.00	77.50	+ 3.2
Steel, structural shapes, Pitts., cwt	5.50	5.50	5.275	+ 4.3
Steel, structural shapes, Los Angeles, cwt	6.20	6.20	5.975	+ 3.8
Steel, bars, del., Phila., cwt	5.975	5.975	5.725	+ 4.4
Steel, bars, Pitts., cwt	5.675	5.675	5.425	+ 4.6
Steel, plates, Chicago, cwt	5.30	5.30	5.10	+ 3.9
Steel scrap, #1 heavy, del. Pitts., gross ton	36.00	36.00	36.50	— 1.4
Steel scrap, #1 heavy, del. Cleve., gross ton	36.00	34.00	33.00	+ 9.1
Steel scrap, #1 heavy, del. Chicago, gross ton	35.00	34.00	37.50	— 6.7
Aluminum, pig, lb	.247	.247	.24	+ 2.9
Secondary aluminum, #380 lb	.228	.228	.213	+ 7.0
Copper, electrolytic, wire bars, refinery, lb	.311	.311	.248	+25.4
Copper scrap, #2, smelters price, lb	.258	.268	.20	+29.0
Lead, common, N.Y., lb	.12	.12	.11	+ 9.1
Nickel, electrolytic, producers, lb	.74	.74	.74	0
Nickel, electrolytic, dealers, lb	.74	.74	.74	0
Tin, Straits, N.Y. lb	1.048	1.046	.946	+10.8
Zinc, Prime West, East St. Louis, lb	.11	.115	.10	+10.0
FUELS				
Fuel oil #6 or Bunker C, Gulf, bbl	2.00	2.00	2.25	—11.1
Fuel oil #6 or Bunker C, N.Y. barge, bbl	2.37	2.37	2.57	— 7.8
Heavy fuel, PS 400, Los Angeles, rack, bbl	2.15	2.15	2.50	—14.0
LP-Gas, Propane, Okla. tank cars, gal	.04	.04	.04	0
Gasoline, 91 oct. reg, Chicago, tank car, gal	.115	.115	.115	0
Gasoline, 84 oct. reg, Los Angeles, rack, gal	.115	.115	.105	+ 9.5
Coal, bituminous, slack, ton	5.25	5.25	5.75	— 8.7
Coke, Connellsville, furnace, ton	15.00	15.00	15.25	— 1.6
CHEMICALS				
Ammonia, anhydros, refrigeration, tanks, ton	90.50	90.50	90.50	0
Benzene, petroleum, tanks, Houston, gal	.31	.31	.36	—13.9
Caustic soda, 76% solid, drums, carlots, cwt	4.80	4.80	4.80	0
Coconut, oil, inedible, crude, tanks, N.Y. lb	.22	.22	.149	+47.7
Glycerine, synthetic, tanks, lb	.278	.278	.278	0
Linseed oil, raw, in drums, carlots, lb	.16	.16	.173	— 7.5
Phthalic anhydride, tanks, lb	.165	.165	.205	—19.5
Polyethylene resin, high pressure molding, carlots, lb	.35	.35	.325	+ 7.7
Rosin, W.G. grade, carlots, f.o.b. N.Y. cwt	9.85	9.85	9.70	+ 1.5
Shellac, T.N., N.Y. lb	.30	.30	.31	— 3.2
Soda ash, 58%, light, carlots, cwt	1.55	1.55	1.55	0
Sulfur, crude, bulk, long ton	23.50	23.50	23.50	0
Sulfuric acid, 66° commercial, tanks, ton	22.35	22.35	22.35	0
Tallow, inedible, fancy, tank cars, N.Y. lb	.069	.069	.083	—18.1
Titanium dioxide, anatase, reg. carlots, lb	.255	.255	.255	0
PAPER				
Book paper, A grade, Eng finish, Untrimmed, carlots, CWT	17.20	17.20	17.00	+ 1.2
Bond paper, #1 sulfite, water marked 20 lb, carton lots, CWT	25.20	25.20	24.00	+ 4.1
Chipboard, del. N.Y., carlots, ton	95.00	95.00	100.00	— 5.0
Wrapping paper, std, Kraft, basis wt. 50 lb rolls	9.00	9.00	9.00	0
Gummed sealing tape, #2, 60 lb basis, 600 ft bundle	6.40	6.40	6.40	0
Old corrugated boxes, dealers, Chicago, ton	21.00	21.00	17.00	+23.5
BUILDING MATERIALS				
Brick, del. N.Y., 1000	41.25	41.25	41.25	0
Cement, Portland, bulk, del. N.Y., bbl	4.25	4.25	4.26	— .2
Glass, window, single B, 40" bracket, box, fob N.Y.	7.90	7.90	7.00	+12.9
Southern pine lumber, 2x4, s4s, trucklots, fob N.Y., mftbm	132.00	132.00	116.00	+13.8
Douglas fir lumber, 2x4, s4s, carlots, fob Chicago, mftbm	143.00	143.00	116.00	+23.3
TEXTILES				
Burlap, 10 oz, 40", N.Y. yd	.10	.10	.101	— 1.0
Cotton, middling, 1", N.Y., lb	.362	.363	.363	— .3
Printcloth, 39", 80x80, N.Y., spot, yd	.195	.192	.174	+12.1
Rayon twill, 40½", 92 x 62, yd., N. Y.	.253	.25	.223	+13.5
Wool tops, N.Y. lb	1.595	1.555	1.47	+ 8.5
HIDES AND RUBBER				
Hides, cow, light native, packers, Chicago, lb.	.29	.285	.154	+88.3
Rubber, #1 std ribbed smoked sheets, N. Y., lb	.351	.358	.259	+35.5

This Week's

Price Perspective

JUNE 15-21

Today's slowly rising price trend is almost a sure bet to continue through the second half of 1959.

So say P.A.'s responding to PURCHASING WEEK's latest price survey. Some 79% see the general price level 1-4% higher by year end.

Statistically speaking, you can hardly want a more significant percentage than that. When 4 out of 5 P.A.'s—cutting across industry and geographical lines—agree so closely, you can bet your bottom dollar there's some basic trend running through the nation's market places.

Note that the average of this 1-4% range comes out slightly more than 2%. **That's remarkably close to the 2% rise that we here on Purchasing Week have been predicting for the 2nd half.**

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The survey—in addition to forecasting the general price outlook—turns up some interesting insights into price trends.

• **Raw Material Outlook**—It's significant that 6 of 7 items most often mentioned by P.A.'s as likely targets for boosts are raw materials.

It means those P.A.'s whose purchase mix is mostly raw materials may be paying relatively more than average in the coming half year.

P.W.'s analysis of raw materials capacity and production (see p. 3) lends support to this outlook. **Slow creeping up of production toward capacity is sure to exert upward pressure on these quotations.**

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• **Import Competition**—It's also significant that purchasing men saw foreign competition as the major factor in helping to keep a lid on prices.

It emphasizes the growing role of imports in the buying picture. P.A.'s regarded it more important than such time-tested inflation remedies as ample capacity, productivity rise, balanced budget, and credit control.

It's a sign of the times. **In fact it's an unmistakable indication that buyers are keeping close tabs on foreign sources of supply.**

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• **Price hedging**—Again this widely heralded buying technique proved to be somewhat exaggerated.

Only 6% of the respondents (even less than indicated in a previous P.W. survey) said that price boost expectations had much of an influence on their volume of buying. An overwhelming 62% said it had absolutely no influence at all on the amount they were purchasing.

It's further indication that the current pickup in buying (except possibly for steel) is basically for production needs—and not to escape later price rises.

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• **Stemming Inflation**—The majority of respondents thought a combination of labor, government and business was needed to stem price boosts.

It again points up the complexities of our economy. If labor asks for and gets unrealistic wage boosts, then nothing business and government can do will stem price rises.

If business administers prices—disregarding basic market factors—then there's very little labor and government can do to stabilize tags.

If government runs up terrific deficits in times of prosperity and makes credit too easy—then the inflationary pattern is set regardless of what labor and business do to keep prices from rising.

Again it boils down to one word—cooperation. Without it, any one of these three major factors is capable of rocking the price boat.

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June 15, 1959

Raw Material Output Catching Up to Capacity

New York—Raw material production—after lagging for two years—is finally beginning to catch up with capacity. Though it still has a way to go before any actual shortages crop up (barring a strike), the new trend is significant. As production pushes closer and closer to capacity levels, you may expect increased upward pressure on material prices.

A glance at these two key series (see chart on right) points up some important new developments in the production-capacity relationship.

• The materials output curve, which represents steel, nonferrous metals, textiles, petroleum, cement, and papers (among others) has jumped a resounding 37% from year ago levels.

• The rise has pushed raw material production to record levels. It is now closer to the capacity line than at any time since late summer of 1957.

• Growth of raw material capacity in 1958 slowed down—reflecting, in part, depressed conditions in most industries. Raw material capacity in January 1959 was only 4.5% above the previous year—compared to a 5.5% annual gain in 1957.

Expected to Continue

The current output trend is expected to continue at least through summer. And the reasons aren't too hard to pinpoint:

First and foremost is rising production needs. P. A.'s raw material requirements to fill production schedules have constantly been revised upwards in recent months. It's basically a reflection of growing demand for consumers and capital goods.

Restocking also is playing a substantial part in increased material buying. Many raw material stocks were reduced to rock bottom in the recession days of 1958. Quick business recovery caught many firms flat-footed. Result: It has been necessary to rebuild stocks quickly to levels consistant with better 1959 business.

Strike threats also have played a role. The upped demand stemming from the steel strike is well known. But threats of labor trouble in copper and aluminum also will continue to play a role in raising metal demand.

Narrowing the Gap

A look at some of the individual products can perhaps best reveal the narrowing of the production-capacity gap.

Steel presents the most startling change of all. Last week operations ran close to 95% of capacity. A year ago they were only around 60%.

When you realize 1958 capacity was 7 million tons smaller than current levels, the figure becomes even more impressive.

If inventory reports are to be believed, most of the additional purchases are going directly into production. The implication is clear: Business recovery would warrant close to current levels of buying—even if no strike loomed.

Aluminum figures also are revealing. Recent activation of long-idle potlines have brought the industry rate to over 87% of capacity. Last July it was only 70% of a smaller capacity.

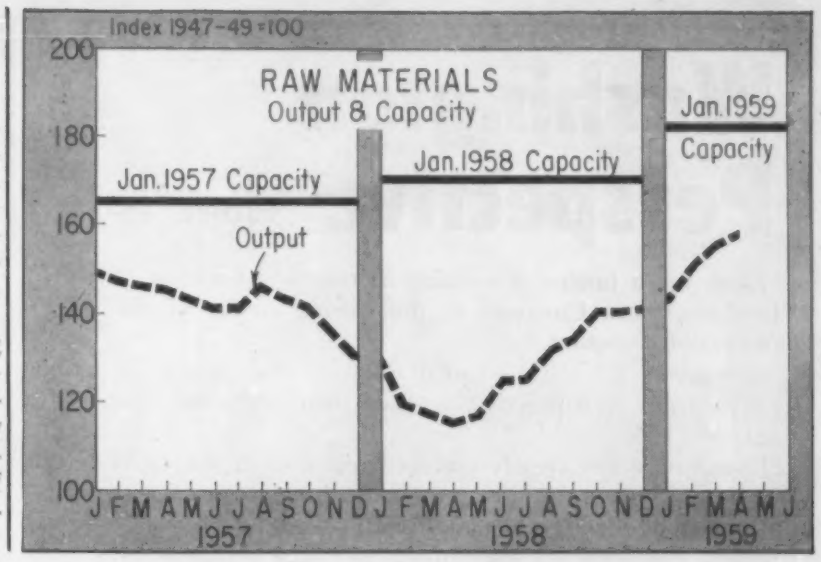
Some firms actually have hit capacity. Just last week, for example, Reynolds Metal Co. announced it was boosting production to 100% of rated annual capacity. The two other giants of the industry are operating at somewhat lower rates (Aluminum Co. of America—83% and Kaiser—86%).

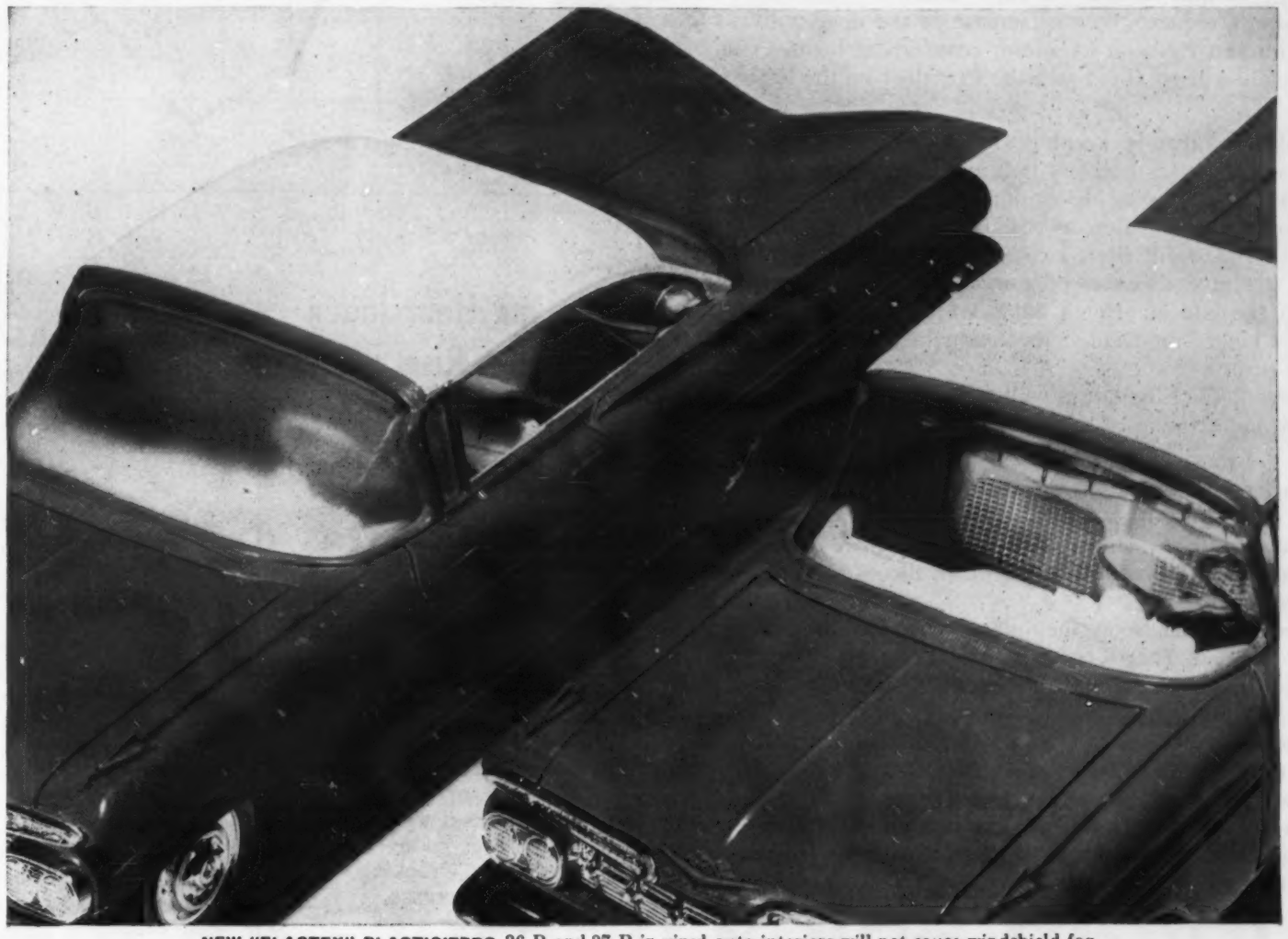
The trek towards capacity is by no means limited to metals. Improvement has been substantial in soft goods items too.

Look at paper. Operating rate in this key industry is currently estimated at 93%. A year ago the paper figure was only 85%.

Though the paper rise is less spectacular than noted in metals, it nevertheless is just as significant. Paper is basically anticyclical, and therefore tends to fluctuate much less widely than its metal companions.

Portland cement — reflecting booming construction and highway activity—also shows substantial progress toward capacity operations. Latest available figures shows production at 88% of capacity. A year ago the comparable figure was 79%.





NEW "ELASTEX" PLASTICIZERS 36-R and 37-R in vinyl auto interiors will not cause windshield fog on hot days. Conventional plasticizers migrate to cloud windshield—demonstrated by model at left.

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This Week's

Washington Perspective

JUNE 15-21

Look for a further worsening in relations between President Eisenhower and Congress in the closing weeks of this year's congressional session.

Democrats are restless and divided on their course of action. The year has seen practically all of their ambitious plans sidetracked.

Eisenhower has clearly emerged top dog in the contest with Democrats. They are having the frustrating experience of seeing the power of their great majorities in Congress reduced almost solely to embarrassing Eisenhower political nominations.

With business continuing to boom, Democrats have little hope to salvaging any of their programs except for drastically reduced housing and airport aids—if that.

Only two other items of any significance remain to deal with: a civil rights bill, which will only split the party further, and Eisenhower's requests for an increase in the debt ceiling and a hike in interest rates on long-term government bonds. Congress undoubtedly will go along with the President on the latter issues.

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Eisenhower also is keeping Democrats off balance on the budget issue. Better business is bringing in greater tax receipts.

The Treasury now estimates that revenues next fiscal year will be up $600 million. But unofficially, money managers are predicting revenues will rise $2 to $3 billion.

This will give Eisenhower a more than comfortable surplus bulge in the budget. But a balanced budget in the new fiscal year still hinges on Democrats voting increases in postal rates and gas taxes.

If they don't, Eisenhower will be able to pin the blame on them for another year of deficit financing.

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Teamster boss James Hoffa and the Senate Rackets Committee will only go through the motions again next week.

The committee is staging a three-week finale with Hoffa as the main attraction before ringing down the curtain for good on their investigations.

Committee officials say they plan no sensational exposures to spring on Hoffa. They'll concentrate on showing that he has not taken any steps to clean up the Teamsters since taking the reins.

But this will be only for the record. Fact is, Hoffa is now in a stronger position than ever with his union and there's no chance of the committee being able to dethrone him.

Hoffa was handed a setback last week by a federal appeals court in Washington, however. The court upheld the power of the union's monitors to force Hoffa to accept their rulings. The monitors have been awaiting the decision before going ahead with clean-up demands.

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Unemployment dipped down below the "danger point" in May. For the first time in 18 months, unemployment fell below a seasonally adjusted rate of 5%. It dropped to 4.9%.

According to the Labor Department projections, this practically assures that unemployment won't get back to 4 million —even during the winter months of peak unemployment—for the rest of this year and next.

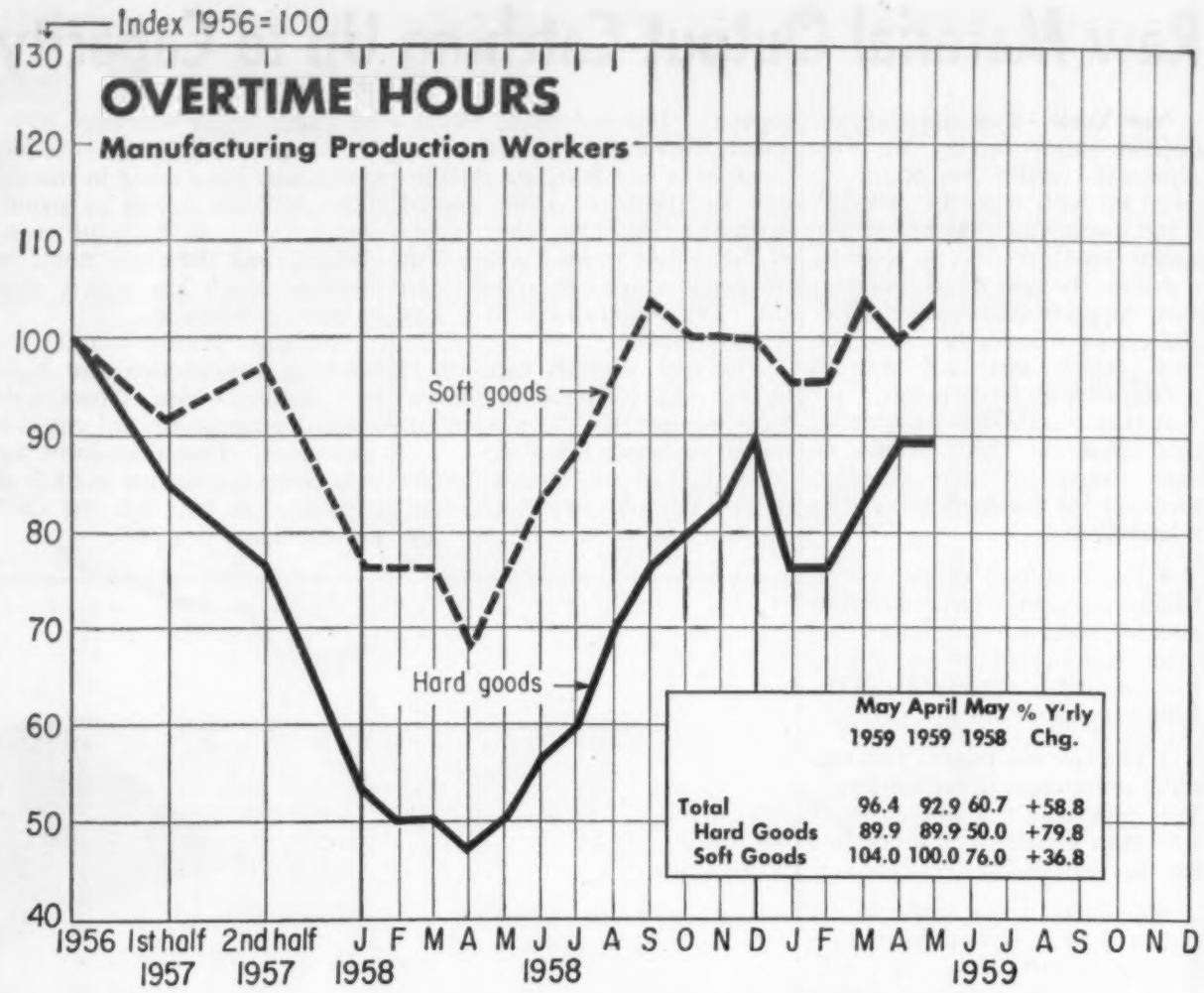
Unemployment dropped 238,000 in May to total less than 3.4 million. Employment hit a record high of 66 million. Especially significant was the 106,000 pickup in manufacturing industries, all but 1,000 of this in durable goods employment.

Average weekly factory wages also hit a new peak—$98 weekly for durable workers; $80 for nondurable employees.

Weekly Production Records

	Latest Week	Week Ago	Year Ago
Steel ingot, thous tons	2,681	2,653*	1,728
Autos, units	126,298	117,372*	73,696
Trucks, units	27,605	25,359*	16,191
Crude runs, thous bbl, daily aver	8,280	7,888	7,690
Distillate fuel oil, thous bbl	12,847	12,372	12,251
Residual fuel oil, thous bbl	7,141	6,663	6,775
Gasoline, thous bbl	29,415	28,501	27,263
Petroleum refineries operating rate, %	85.6	81.5	83.7
Container board, tons	154,133	167,868	114,444
Boxboard, tons	140,874	158,599	132,765
Paper operating rate, %	93.1	96.5*	85.7
Lumber, thous of board ft	253,025	263,811	212,551
Bituminous coal, daily aver thous tons	1,405	1,402*	1,212
Electric power, million kilowatt hours	13,023	12,761	11,681
Eng const awards, mil $ Eng News-Rec	522.8	315.7	505.5

*Revised


Index 1956=100
OVERTIME HOURS
Manufacturing Production Workers
130
120
110
100
90
80
70
60
50
40
Soft goods
Hard goods
May 1959 | April 1959 | May 1958 | % Y'rly Chg.
Total 96.4 92.9 60.7 +58.8
Hard Goods 89.9 89.9 50.0 +79.8
Soft Goods 104.0 100.0 76.0 +36.8
1956 1st half 1957 2nd half 1957 1958 J F M A M J J A S O N D 1958 J F M A M J J A S O N D 1959

Overtime Hour Index Continues Rise in All Except One Category

New York—Overtime as measured by PURCHASING WEEK's index of overtime hours continues its upward climb. The fact that the month-to-month gain in May came exclusively in the soft goods segment of the economy is further proof that the current boom is based on a solid and diversified foundation.

Just how far we have come from last spring can be seen in the year-to-year gains of the major segments of manufacturing. For hard goods it was a resounding 80%. Soft goods wasn't far behind either, racking up a healthy 37% increase.

The detailed breakdown of industry groups for April (table at right) shows that every area except tobacco was employing workers on overtime at a rate significantly above the 1958 level. Biggest gainer over the year-ago level was rubber products, 183%.

Overtime Hours of Manufacturing Production Workers Index

1956 = 100

	Latest Month*	Month Ago	Year Ago	% Yrly Change
Hard Goods				
Ordinance & Accessories	69.0	69.0	65.5	+ 5.3
Lumber & Wood	103.0	99.9	66.7	+ 54.4
Furniture & Fixtures	82.1	92.9	46.4	+ 76.9
Stone, Clay & Glass	100.0	88.9	61.1	+ 63.7
Primary Metals	96.4	89.3	35.7	+170.0
Fabricated Metal Products	90.0	83.3	50.0	+ 80.0
Non Electrical Machinery	75.7	73.0	40.5	+ 86.9
Electrical Machinery	73.1	76.9	34.6	+111.3
Transportation Equipment	89.7	86.2	41.4	+116.7
Instruments	87.0	82.6	47.8	+ 82.0
Soft Goods				
Food	84.8	84.8	75.8	+ 11.9
Tobacco	81.8	81.8	118.2	— 30.8
Textile Mill Products	115.4	115.4	53.8	+114.5
Apparel	116.7	116.7	66.3	+ 75.0
Paper	95.7	97.8	69.6	+ 37.5
Printing & Publishing	84.5	90.6	68.8	+ 22.8
Chemicals	117.4	100.0	82.6	+ 42.1
Petroleum & Coal Products	90.0	95.0	75.0	+ 20.0
Rubber Products	121.4	142.9	42.9	+183.0
Leather & Products	98.6	107.1	42.9	+129.8

* Latest month is April

Price Changes for Purchasing Agents

Item & Company	*Amount of Change*	*New Price*	*Reason*
INCREASES			
Formaldehyde, 37% grade, Reichhold Chemical, lb	.0025	$3.75	
Citronella Oil, Formosan, lb	.02	.72	Transp. cost
Orange Oil, Floridian, lb	.05	.75	Demand boost
Cottonseed Oil, Valley, lb	.0063	.13	
Phosphatic Fertilizer Sol., Monsanto, (July 1), ton	3.00	88.00	Upped prod. cost
REDUCTIONS			
Marine Diesel Fuel, hvy., Esso Exp., East Seabd., bbl	.13	$3.88	
Direct Dye, violet, BN, lb	.14	$2.04	Mfg. Economies
Orange, NST, lb	.50	$2.45	Mfg. Economies
Violet, 2R, lb	$2.56	$4.75	Mfg. Economies
Nutmeg Oil, lb	.50	$11.25	
Basic Dye, brilliant red, 4G, lb	.15	$3.45	Mfg. Economies
Blue, 2G, lb	.25	$4.50	Mfg. Economies
Vat Dye, jade green, double paste, lb	.05	$1.50	Mfg. Economies
Super D, double powder, lb	.05	$1.85	Mfg. Economies
Geranium Bourbon Oil, lb	.50	$19.50	
Cardamom Oil, lb	.50	$44.00	
Spearmint Oil, lb	.50	$4.95	Crop expectation
Vetiver Bourbon Oil, lb	.50	$12.50	
Heating Oil, No. 2, Esso Stand. Oil, Manhattan, gal	.006	.14	
Green Fir Lumber, 2x4's, Northwest mills, mftbm	$2.00	$76.00	Output boost
Unsanded Plywood, 3/8-in., Northwest mills, mftbm	$2.00	$104.00	
Fuel Oil, No. 5, Esso Standard, Charleston, S. C., bbl	.04	$2.90	
Gasoline, Mobile Oil, dealer tnkwgns.,			
Elmira, gal.	.02	.162	
Albany, Buffalo, gal	.02	.159	
Binghamton, Syracuse, gal	.02	.164	
Mercury, 76-lb. flask	$2.00	$243.00	

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58-12

Growing Depreciation Allowances Freeing Cash for Re-Investment

New York—Growing depreciation allowances soon will be providing management with a record flow of tax-free cash—a money source which traditionally has been associated with reinvestment in plant and equipment. Thus P.A.'s soon may be raising their sights on plans for machinery and equipment purchases.

This optimistic outlook comes from a McGraw-Hill survey which delves into depreciation prospects of business firms.

The report, conducted in conjunction with McGraw-Hill's annual Survey of Business Plans (see P.W., Apr. 20, '59, p. 1), revealed these facts:

- The flow of funds stemming from depreciation allowances will be so large in some industries that it could support substantial increases in present plans for capital equipment purchases.
- The cash flow from depreciation for all industries will cover two-thirds of the capital expenditures now in prospect for 1959. By 1962 the proportion will grow close to 80%.
- Depreciation will cover a higher percentage of capital expenditures in the years 1959-62 than at any time since the end of World War II.
- In manufacturing industries, the expected flow of cash from depreciation is well in excess of plans for modernization and replacement.
- The expected cash flow from depreciation over the four years 1959-62 is as large as the amount estimated—in the special McGraw-Hill survey conducted last summer—as the total cost of replacing all productive facilities considered obsolete at that time.

Depreciation, Capital Spending

There has long been a close relationship between depreciation and capital spending, although accountants and economists dispute with remarkable fervor just what the relationship is—or should be.

As a rough proposition, however, depreciation is generally regarded as a primary source of funds for plant and equipment expenditures. In an earlier McGraw-Hill survey (1953) about 85% of the manufacturing companies said they had a policy of spending all their depreciation allowance for plant and equipment and expected to continue that policy.

Moreover, depreciation is a source for capital spending that has been growing steadily in the years since World War II. According to figures compiled by the U. S. Department of Commerce, depreciation allowances of corporations increased from $5.2 billion in 1947 to $19.7 billion in 1957.

Depreciation amounted to less than 30% as much as corporate plant and equipment outlays in 1947, but the proportion was 60% in 1957.

There are two main reasons for this increase in depreciation allowances:

1. Depreciation in 1947 was charged mostly against plants and equipment installed before the war, and was carried on the books at prewar prices. Depreciation allowances in recent years reflect the huge investment in new plants and equipment during the postwar years, all of which is valued at higher postwar prices.

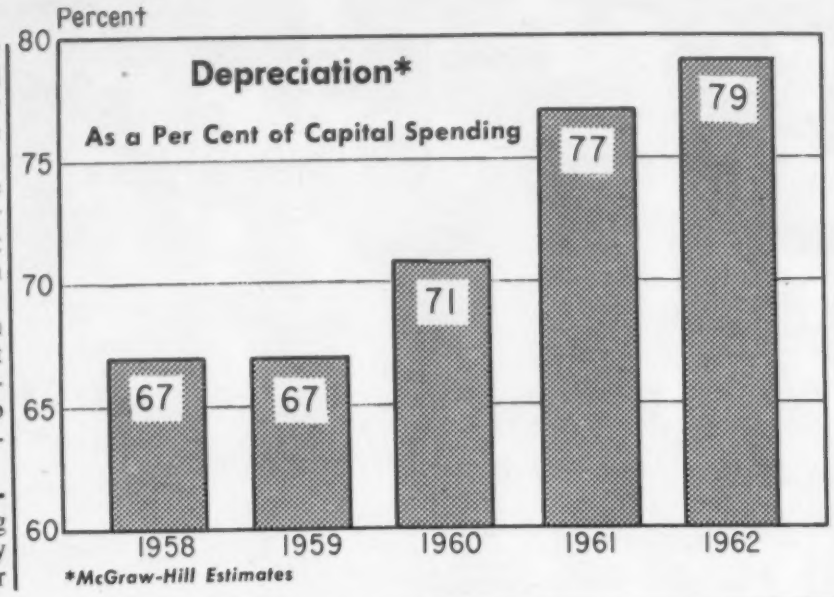
2. A special provision for amortization of defense-related facilities, adopted during the Korean War, and a permanent change in the tax law in 1954 has enabled business to deduct depreciation at faster rates than were allowed previously.

The new McGraw-Hill survey makes it clear that depreciation will continue to supply a greater proportion of the funds needed for new plants and equipment for at least the next four years (see chart at right).

The steadily rising bars on the chart indicate greater and greater percentages of capital equipment which could be financed through depreciation reserves.

Compare these depreciation figures with other data brought out in recent McGraw-Hill spending surveys, and you come up with some interesting implications.

1. Depreciation and Modernization Plans—Manufacturing companies recently said they planned to spend 65% of their



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total capital outlays—or about $24.5 billion—on modernization and replacement during the four years 1959-62. Over the same period they expect to have depreciation deductions totalling $35.3 billion. So all such plans could easily be paid for out of depreciation reserves.

2. Depreciation and Obsolete Facilities—In a special survey conducted last summer, the McGraw-Hill Department of Economics reported that it would cost $33.3 billion to replace all facilities that manufacturing companies considered obsolete at that time. For all business, the total cost of replacing obsolete facilities was estimated at $95 billion.

New depreciation estimates top these replacement costs. Manufacturing companies over the years 1959-62, for example, look for a depreciation total of more than $35 billion—compared to the $33.3 billion replacement estimate. For all business the figure in more than $98 billion—compared to the replacement figure of $95 billion.

Thus, the flow of depreciation during the next four years would be enough, in the aggregate, to replace all the facilities considered obsolete in 1958.

3. Depreciation and Total Capital Spending—Expected depreciation would cover most, but not all, of the capital expenditures now planned for 1959-62 both in manufacturing and in business as a whole.

In some individual industries, depreciation is even greater than present plans for new plant and equipment expenditures.

4. Depreciation and Cash Flow—With higher profits the total of retained earnings and depreciation may well be enough to cover cash needs for both capital spending and higher inventories.

The McGraw-Hill Department of Economics estimates of corporate cash flow in 1959-60 (along with the actual results for the 1955-57 period) are shown in the table above right.

These figures would indicate that financing may be somewhat less of a problem in the future.

Effects of Fast Writeoffs

In view of the heavy flow of depreciation anticipated for the coming four years, another question concerning depreciation asked in the survey brought some surprises. Companies were asked what their policy would be "if depreciation allowances permitted by the tax law were substantially increased over the next few years."

Almost half of all companies responding said they would spend more on plants and equipment. See pie chart above right.

Perhaps the most puzzling aspect of the answers to this question was that in some industries where the depreciation flow will exceed-or fall only lightly short of—present spending plans, more than 50% of the companies said increased depreciation allowances would cause them to spend more.

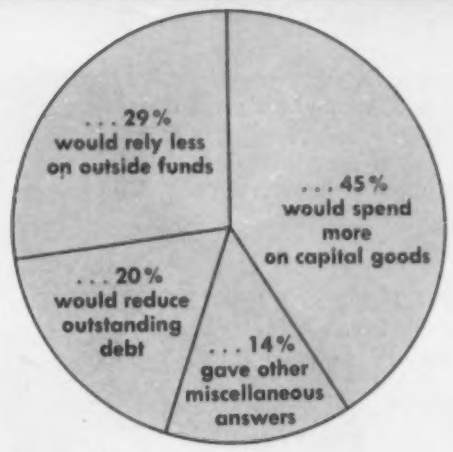
It indicates that present depreciation deductions still fall short of the amounts many companies consider necessary to finance modernization and expansion.

It also suggests a closer look at the individual figures that make up the depreciation flow and spending plans from company to company and from industry to industry, and the prospect of rising costs of capital goods, have some companies worried.

Corporate Cash Flow—1955-60

		1955	1956	1957	1959	1960
Cash flow:	Depreciation	$16	$18	$20	$23	$24
	Retained earnings	11	10	9	12	13
	Total	27	28	29	35	37
Requirements:	Capital Spending	24	30	33	29	30–33
	Inventories	7	8	2	5	5
	Total	31	38	35	34	35–38
Borrowing required (−) or additions to cash (+)		−4	−10	−6	+1	−1 to +2

If Depreciation Allowances Were Increased . . .*


. . . 29% would rely less on outside funds
. . . 45% would spend more on capital goods
. . . 20% would reduce outstanding debt
. . . 14% gave other miscellaneous answers

*Percentages add up to more than 100% because some firms reported more than one alternative

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Canadian P.A.'s Stage 34th Purchasing Conference

(*Continued from page* 1)
competitive basis. He described the wise buyer as the one who purchases just the things he finds most economic from a range of suppliers and resists pressures to buy a larger range from one supplier.

"This is exactly similar to buying internationally," Huebner declared. "A buyer spreads requirements over a greater range of suppliers, but at the same time gets a wider range of ability."

The ability of purchasing to make a "most valuable contribution to international understanding" also was emphasized at the Canadian meeting. Huebner expressed the hope that "it will not be very long" before purchasing groups in England, Canada, the United States, and other English-speaking nations will form a federation to achieve common goals.

The convention participants appeared to be intrigued with Huebner's tips on how to deal with salesmen at the international level.

"Salesmen of some countries in Europe tend to bully but, as long as you take a strong line in return, the bully soon turns," he advised. "When dealing with some Latin American countries, it is necessary to be very precise and leave no doubt as to what you require. With Americans, you must learn how to resist their high pressure methods."

MOUNTAIN SCENERY delighted Canadian P.A.'s at Banff convention. C. L. Chapman, the general chairman, second from right, points out beauty spots to Charles Huebner, British Purchasing Officers Association, Keith MacDonald, president of the host group at Calgary, and Sir Toby Low, of London, a British Board of Trade spokesman.

The Canadian conference also stressed efforts to raise the professional status of industrial purchasing.

J. E. Orrange, purchasing agent for Straits Towing, Ltd., at Vancouver, held up British standards for purchasing agents as a goal to be sought by Canada. The British association, Huebner agreed, has made substantial strides since World War II "in putting buying on a strong professional footing."

Huebner said that by next October the British association will increase from 35 to 38 the age of admission to membership—below which applicants, to be elected, must have the association's examination diploma. He added that the association hopes it will be able to insist within a few years that all applicants "qualify themselves through education as well as by experience."

William A. Small, of Toronto, executive secretary-treasurer of the Canadian association, also touched on the international theme in his report. He predicted that the next decade would see such a rise in international trade that Canadian P.A.'s would become as familiar with other currencies of the world as they now are with the American dollar.

Sir Toby Low, of London, speaking for the British Board of Trade, urged Canadians to increase their purchases of British goods, "so that we can afford to buy more from Canada." The United States is increasing its imports of British goods at a greater rate than Canada, its British purchases for the first four months of this year increasing 38% over a year ago while Canadian purchases increased only 8%, Sir Toby declared.

The British executive bewailed the fact that Canada buys "seven or eight times as much" from the United States as it does from Great Britain. He admitted that "earlier delivery may have seemed more likely from U. S. suppliers" in the past but contended that "faster aircraft and better sea routes, including the new St. Lawrence Seaway, have brought British factories just as close in time as many U. S. factories to many of you, and maybe the freight cost is lower in some cases."

Talks concerned with raising the standards of purchasing were given by C. Warner McVicar, of Pittsburgh, Pa., director of purchasing and traffic for the Rockwell Mfg. Co., and William J. Jefferson, of Welland, Ont., general purchasing agent of Reliance Electric & Engineering (Canada) Ltd.

McVicar endorsed the purchasing manual as one way to make an "imprint" on management.

Jefferson characterized the purchaser as the "career diplomat" of the business world.

Hector D. Wright, of the E. B. Eddy Co., Hull, P. Q., was installed as president of the association to succeed Geofrey L. Haszard, of the British Columbia Electric Co., Ltd., Vancouver, B. C. Alfred R. Oliver, of the Steel Co. of Canada, Hamilton, Ont., became vice president.

Calgary P.A.'s Go All-Out

Banff, Alta.—The Banff convention was the first time the Canadian group met west of Winnipeg, and the registration of more than 825 compared favorably with conventions normally held in Montreal or Toronto. P.A.'s of nearby Calgary went all out as hosts, garbing themselves in cowboy hats and Western outfits. They staged a Western barbecue the night before the convention formally opened.

Canadian purchasing agents have met in Detroit in the past, but not as the Canadian Association of Purchasing Agents. The C.A.P.A. was organized since the Council of Canadian P.A. Associations last met in Detroit in 1953.

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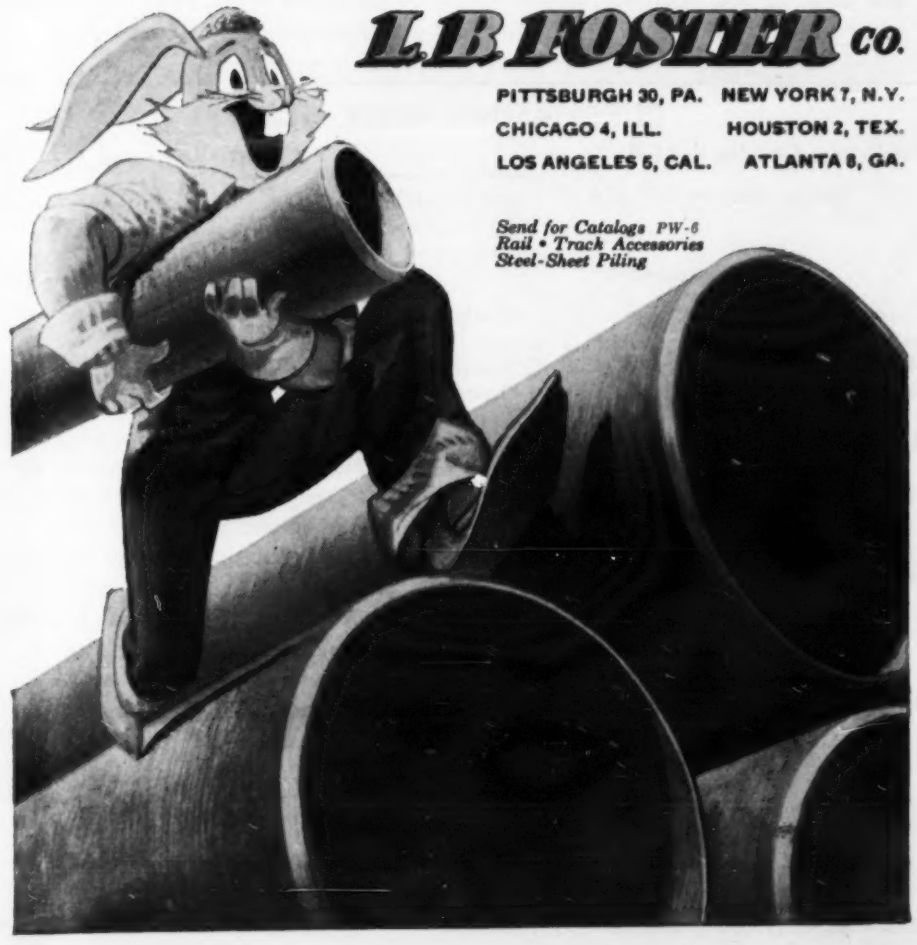

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Purchasing Week

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McGRAW-HILL'S NATIONAL NEWSPAPER OF PURCHASING

Vol. 2, No. 24 | June 15, 1959 | Print Order This Issue 26,628

Be the 'Pro' Management Turns To

WHILE hacking around the golf course the other day, it was surprising to hear a low handicap golfer complain that early in the season his game had gone to pot. To a duffer, of course, his complaint seemed silly. He had been shooting in the low 80's and suddenly his scores "soared" to the high 80's and low 90's.

However, when we reached the 19th hole and found he had a 76, we began to wonder what all the yakking was about. He told us:

"When I started to play golf many years ago, I took no lessons. I determined I'd play and play well. I practiced every opportunity I had. Gradually, I got so I could break 100. I had a lot of opportunities to play in those days and it wasn't too long before I was breaking 90 occasionally. I was still young and had good coordination. I had stamina, too; playing 36 holes was fun. My average score went down into the low 80's and stayed there.

"Then came this year. I just couldn't seem to do any one thing right. Finally, in desperation I went and took lessons. Boy, I wish I had done that earlier. I'd have eliminated many a disappointment on the course. You just can't escape the fact that if you need help you go to a pro."

Obviously, "the complaining golfer" was talking only about golf but I couldn't help but think of his philosophy in connection with purchasing.

Over-all economic conditions sometimes present a confusing picture. Occasionally a top management man will "buy" the idea of individual departments doing their own purchasing. Such a move, unfortunately, does not always show up immediately as being a bad one. In such cases, it even has been true that a company's profit picture remained good. Just as in the case of the golfer, whose score reached a point and stayed there, profits were good but did not get better, they stayed there. And we all know—although sometimes we try to dispute it—that to stand still is, in reality, going backwards.

Purchasing is a profit making function. Anyone can prove it mathematically. Just take a modest 2% saving in your total purchases and think of the dollar sales that would be necessary to add this dollar figure to the profit picture. For example, if purchases total $5 million annually and you effect a 2% saving, you've added $100,000 to the profit column. Ask your sales manager how much additional business he would have to do to add $100,000 to profits.

To the purchasing man, though, a 2% saving is not out of the question. It can be done; it is being done. But it is not being done in those companies where the purchasing function has been scattered to the winds. The profit picture may appear to be unaffected in such cases but it is just a matter of time until management turns to the "pro" for advice.

Just as in the case of the pro golfer, you have to be able to analyze and diagnose what is wrong with the individual purchasing picture. If your management right now seems to be coasting or throwing road blocks in purchasing's path, don't spend your time griping. Determine what is wrong and if you do not have an opportunity right now to present a well thought out plan—one clear of self aggrandizement—then be prepared when your top management turns to you, a pro in the field of purchasing and profit making.

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Your Follow-Up File

How Much to Reinvest?

New York, N. Y.

I have a problem which maybe some of your readers could help me solve.

We are a moderate size growing manufacturer of electrical lighting products and we are interested in expanding our lines as rapidly as possible.

My problem is, "How much should a company of our size reinvest each month for new items?"

Any advice your readers can give us will be greatly appreciated.

Emilio Mercado, Jr.
Purchasing Agent
Rab Electric Mfg. Co., Inc.

● What are your suggestions? Please send us a carbon of your letter to Mr. Mercado (605 East 132nd St., New York 54, N. Y.).

Editorial Creates Debate

New York, N. Y.

Your April 13 editorial ("P.A.'s Know What Competition Is," p. 10) has created quite enthusiastic debate on the merits of the proper place in management for the control of inventory.

Where may I reach the American Production & Inventory Control Society, Inc.?

M. H. Mathewson
Supervisor of Stores
General Chemical Division
Allied Chemical Corp.

● Write to Donald Burkhart, Jr., American Production & Inventory Control Society, Inc., P. O. Box 13, Kokomo, Ind.

'Reader Xchange' Scores

Detroit, Mich.

Thank you for the fine write up in your "Reader Xchange" feature regarding our "Post-Pac Pocket Label" (Pocket Label Saves on Typing, Postage," May 25 '59, p. 36).

H. R. Schramm
Purchasing Agent
R. L. Polk & Co.

● We are always interested in material for our "Reader Xchange" feature (see p. 22). If you, too, have some innovation, method, form or practice which has proved helpful and would interest other P.A.'s, we would like to hear about it.

New Price Change Format

Corning, N. Y.

Of late, price changes have come into my office like a flood tide and have created a tremendous waste of time as well as ruining what remains of a gentle disposition.

As a buyer, I must normally drag out of the files the old price schedules for comparison. The normal price change states only the price and effective date.

Suppliers using applied psychology should, if prices must go up, use the attached format to cushion the blow:

Price Schedule

	•	••
Acetic Acid		
Bulk Granular		
Technical	$102.50	$102.50 (or words "no change")
Vorate "A"	65.00	70.00
Vorate "B"	53.00	51.50

• Effective until 12/31/58.
•• Effective on and after 1/1/59.

R. L. Bisset
Buyer
Corning Glass Works

Reprints Are Available

Alton, Ill.

We have a copy of your reprint "Rising Demand Plus Wage Hike Will Push Up Aluminum Price" (March 30 '59, p. 20). Do you have any additional copies of this, say 35 to 40?

John L. Kammermeyer
Sales Manager
Federated Metals Division
American Smelting & Refining Co.

Gallipolis Ferry, W. Va.

Please send me an extra copy of the article "Plastics: How They Are Processed" and the table on "Kinds, Where to Use Them, What They Cost" (May 11 '59, pp. 30 and 31).

H. O. Francis
Manager
Operations Services Department
Celanese Corp. of America.

● Copies are still available. We also still have reprints available of the following articles:

"Purchasing Manuals Have Many Values," Part I, March 9, Part II, March 16 and Part III, March 23 '59;

"Write Letters That Bring the Results You Want," Dec. 29 '58;

"No Rise Seen in Prices for First Half of 1959," Dec. 8 '58;

"P.A.'s and Salesmen Meet at Purchasing Week Roundtable to Improve Buyer-Seller Relationships," Nov. 10 '58;

"Copying Machines Will Reproduce Written Matter Quickly and Cheaply," Sept. 29 '58;

"How Purchasing Men Can Keep Their Health," Aug. 25 '58;

"Transportation," Part I, Trucking, July 28, Part II, Railroads, Aug. 4, Part III, Air Freight, Aug. 11 '58;

"Salesmen's Contest Pitch Is No Go With P.A.'s" June 23 '58;

"Value Analysis Profitable Tool Only If All Profit, All Cooperate," May 5 '58;

"The 'Open Door' Policy," Feb. 10 and March 10 '58.

To Our Readers

This is your column. Write on any subject you think will interest purchasing executives. While your letters should be signed, if you prefer we'll publish them anonymously.

Send your letters to: "Your Follow-Up File," PURCHASING WEEK, 330 West 42nd St., New York 36, N. Y.

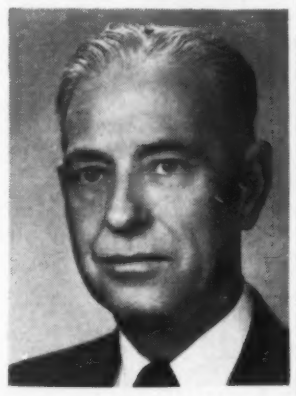
PURCHASING WEEK Asks You . . .

Should the purchasing agent insist that the suppliers he deals with use materials manufactured by his company where applicable?

Question asked by: E. M. Trump, Director of Purchasing Johnson & Johnson, Ltd., Montreal

W. J. Flanagan
Pacific Automation Products, Inc.
Glendale, Calif.

"Reciprocity is practiced to a greater degree than probably admitted. It's ethical providing all qualified suppliers are given an equal opportunity to compete for business. Where a supplier or buyer uses this relationship to enhance his position without the necessary factors of competitiveness, this should not be condoned or tolerated. Nothing influences the making of an award more than quality, delivered performance, price."

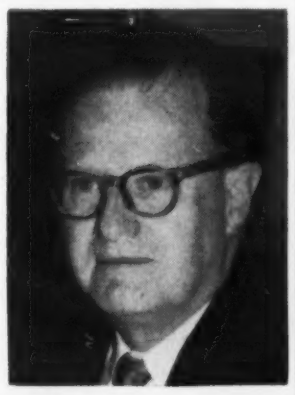


L. E. Davis
Pitman-Moore Co., Indianapolis

"George Aljian's 'Purchasing Handbook' defines the objectives of the purchasing function: **1.** Cost reduction or profit making; **2.** Control of financial commitments; **3.** Control of negotiations; **4.** To provide information and assistance in the specialized purchasing field to management and other groups. If purchasing performs a sales function, the efficient judgment for which management selected purchasing people would be limited. Emphatically no!"

A. S. Trivison
Columbian Vise & Mfg. Co., Cleveland

"Our distributors expect and do get most of our supply and standard product requirements. We are happy to be able to do this. However, we don't insist that local or nearby suppliers of raw materials use our product. We have enjoyed such an enviable reputation in our industry that our products have been in great demand by our suppliers. In my opinion reciprocity has been a contributing factor in our success."



J. M. Berry
Vick Chemical Co., Greensboro, N. C.

"A purchasing agent should be interested in the greatest value and profit for his company. If his buying power can be used to promote the sales to his sources of supply of materials manufactured by his company, it would appear desirable. A practical weighing of the net advantage to his firm—profit from sales as against any increased cost or reduced value in buying—should be the determining factor."

E. F. McCaghy
National Presto Industries, Inc.
Eau Claire, Wis.

"Insistence should be unnecessary, for what better sales ammunition can any salesman have than facts and figures as to what his company has bought or is buying from the buyer's company. If a supplier is obtaining materials from competitive sources, the buyer has an obligation to his own firm to suggest that his company receive at least a portion, providing prices are competitive."

C. V. Doolittle
Great Southern Trucking Co.
Jacksonville, Fla.

"Our company sells transportation services, used by nearly all suppliers in one way or the other. We believe, all things being equal (rate-wise and service-wide) our suppliers should use our services whenever possible. We have not found it necessary to insist. We find most of them anxious to cooperate and through the years some very pleasant and reciprocally profitable contacts have been made."

ROUTE TO INTERESTED PEOPLE

USS Complete Strapping Service brings you the new Model 13 !

The first portable semi-automatic round steel strapping machine . . . completely air-powered

Model 13 takes the effort out of strapping. All you do is thread the machine, drape the strapping around pallet or package, slide strapping into the slot and with a twist of your wrist, air power draws the strap to a pre-determined tension, and then a reverse twist ties and trims the strap.

That's all! The machine uses 12- to 15-gauge round steel strapping, is portable, or can be suspended for production line use.

Please fill in the coupon for further information.

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Steel Service Centers and
Complete Steel Strapping Service Coast to Coast
USS Steel Strapping, formerly Gerrard Steel Strapping

U. S. Steel Supply Division
U. S. Steel Corporation, Dept. P.W.
208 South LaSalle Street
Chicago 4, Illinois

Please send me a free copy of your Model 13 brochure describing in detail this new Pneumatic Strapping Machine.

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COMPANY _____

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CITY _____ STATE _____

British Looking for More Trade with Egypt Despite Nasser's Suspicion Since Suez Crisis

Cairo—Britishers are returning here in a steady trickle in search of trade opportunities. Pinning hopes of orders on the scope of Egypt's industrial development program, they believe they can win back some markets captured by other European countries following Suez.

But there are some pretty big snags to overcome.

Nasser's government still is highly suspicious of the British attitude toward Egypt's ambitions in this part of the world. That explains why the U.K. only has a technical mission in Cairo and chances of re-establishing full diplomatic relations still are very remote.

Another hurdle is the fact that former British markets for consumer goods have almost disappeared in Egypt now that the Nasser regime is going ahead with establishment of factories to supply the home market. That goes particularly for cotton.

It's hoped, however, that Britain will be able to sell Egypt a fair amount of capital equipment over the next few years. The difficulty will be how the Egyptians will pay for this. At present, with major development projects on the Suez Canal and at Aswan underway, and with cotton prices uncertain on world markets, the country's foreign exchange position is critical. More and more the Egyptians are favoring barter deals—which are disliked by U. S. traders.

Russia, despite Nasser's nervous drive against the Communists in recent months, still cuts an important trade figure in Cairo. The Soviet bloc buys the greater part of Egypt's exports, and substantial Soviet aid for development is to be forthcoming.

But the Egyptians are learning some of the dangers implicit in trading with Red countries. Communist sales of Egyptian cotton at a discount have helped to spoil the market.

Imperial Chemical Slashes Wrought Titanium Prices But Raises Terylene Tags

London—Imperial Chemical Industries, Ltd., has slashed its prices for wrought titanium by as much as 25%. The reductions are in line with the company's declared policy of reducing prices of the metal as quickly as possible.

In the past four years, I.C.I. says, titanium has become firmly established as a structural metal for aircraft and chemical engineering in applications where its properties justify initial cost. But full commercial potential won't be achieved until price of titanium becomes more directly competitive with that of conventional materials, the company adds.

Commercial purity sheet titanium, 8 by 2 ft. by 20 gage, is reduced $3.64 to $11.90; rods, one in. diameter, $1.54 to $9.24, and extrusions, $2.10 to $14.70.

Although reducing titanium prices, I.C.I. raised terylene prices for the first time in four years. This was in line with the current upward trend in British man-made fiber business.

Price of terylene 100 denier yarn is up 5¢ to $1.63 a lb., 75 denier up 10¢ to $1.69, and 50 denier up 7¢ to $1.75. Heaviest demand for the fiber in recent weeks has come from industrial users, I.C.I. says.

2 Indian Firms Will Supply Ferromanganese Ore to U. S.

New Delhi—Two Indian firms have entered into agreements with the Continental Ore Corp., New York, for the sale of Indian ferromanganese ore.

An agreement between Continental and Cambata Ferro-Manganese Private, Ltd., Bombay, calls for 30,000 tons of ore per year to Dec. 31, 1964. Khandelwal Ferro Alloys, Ltd., also of Bombay, will supply an annual 30,000 tons for 10 years.

India and the U. S. signed a barter agreement last March for the exchange of 450,000 tons of wheat, valued at $31.5 million for manganese, ferromanganese, and other materials originating in India.

Alberta Oil Tool Co. Starts Output of Precision Fittings

Edmonton, Alta.—Alberta Oil Tool Co. has started production of the first domestic precision fittings in Canada. The British-backed firm intends to replace imported fittings with home-made lines.

Equipped with electrically, hydraulically, and air-operated machines, Alberta Oil will manufacture threaded A.P.I. gaged seamless nipples and swages. Initial production will be on straight and swage seamless nipples with future output geared for additional types of fittings.

British Firm Buys 25% Interest in U. S. Company

London—A British engineering firm is buying a 25% interest in Foote Brothers Gear & Machine Corp., Chicago. Options to take another 25% extend over next six years, David Brown Corp., says.

Both companies will exchange technical information, but it won't be a one way traffic—"We too have a good deal to offer," Brown said.

'Direct Smelting' Steel Plant To Be Built in Varennes, Que.

Toronto, Ont.—Canada's first "direct smelting" steel making plant will get its iron ore supply from a mine within sight of Parliament Hill here.

Koppers Co., Inc., Pittsburgh, Pa., will build and help finance the $12 million plant, to be located at Varennes, a Montreal suburb. Quebec South Shore Steel Corp. will operate the facilities.

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STRAITS TIN REPORT
News of developments in the production and uses of tin
MALAYAN TIN BUREAU

Tinned sheet steel, available up to 22 gage, has the strength of steel, and good formability in addition. The coating also serves as an excellent paint base and doesn't require a primer coat. For these reasons it is widely used in the automotive industry for air cleaners, oil filters, covers, vents and hot-air ducts.

Modern pewter is nontarnishing and nontoxic, contains no lead, and does not darken or lose its surface finish. It contains 93% tin, 6% antimony, and 1% copper. Surface finish ranges from a bright, high polish to a subdued satin texture. It can be cleaned with soap and water. Frequent polishing is not necessary.

De-icing problem? Perhaps this is the answer. Years ago a transparent electroconductive coating, containing tin, was developed for aircraft. The thin tin-oxide film is applied to glass. A low current passing through the coating generates sufficient heat to de-ice the glass, now standard equipment on most commercial and military planes.

Phosphor bronze, a tin-copper alloy containing up to 10% tin is used in over 30 different aircraft applications. Typical uses are for bushings, bearings, springs, valves, contacts, thermostats and switches.

Write today for more data on these items or for a free subscription to TIN NEWS—a monthly bulletin on tin supply, prices and new uses.

The Malayan Tin Bureau
Dept. 50F, 1028 Connecticut Ave., Washington 6, D.C.

New 36-page catalog in full color shows you *how* to Stop Rust – and provide lasting beauty in your choice of colorful Rust-Oleum finish coatings on tanks, girders, metal sash, pipes, boilers, stacks, metal fences, fire escapes, and many other applications. Includes over one-hundred actual color chips – plus important application photos, surface preparation data, and technical information. Request your FREE copy of Rust-Oleum Catalog No. 257– *today!*

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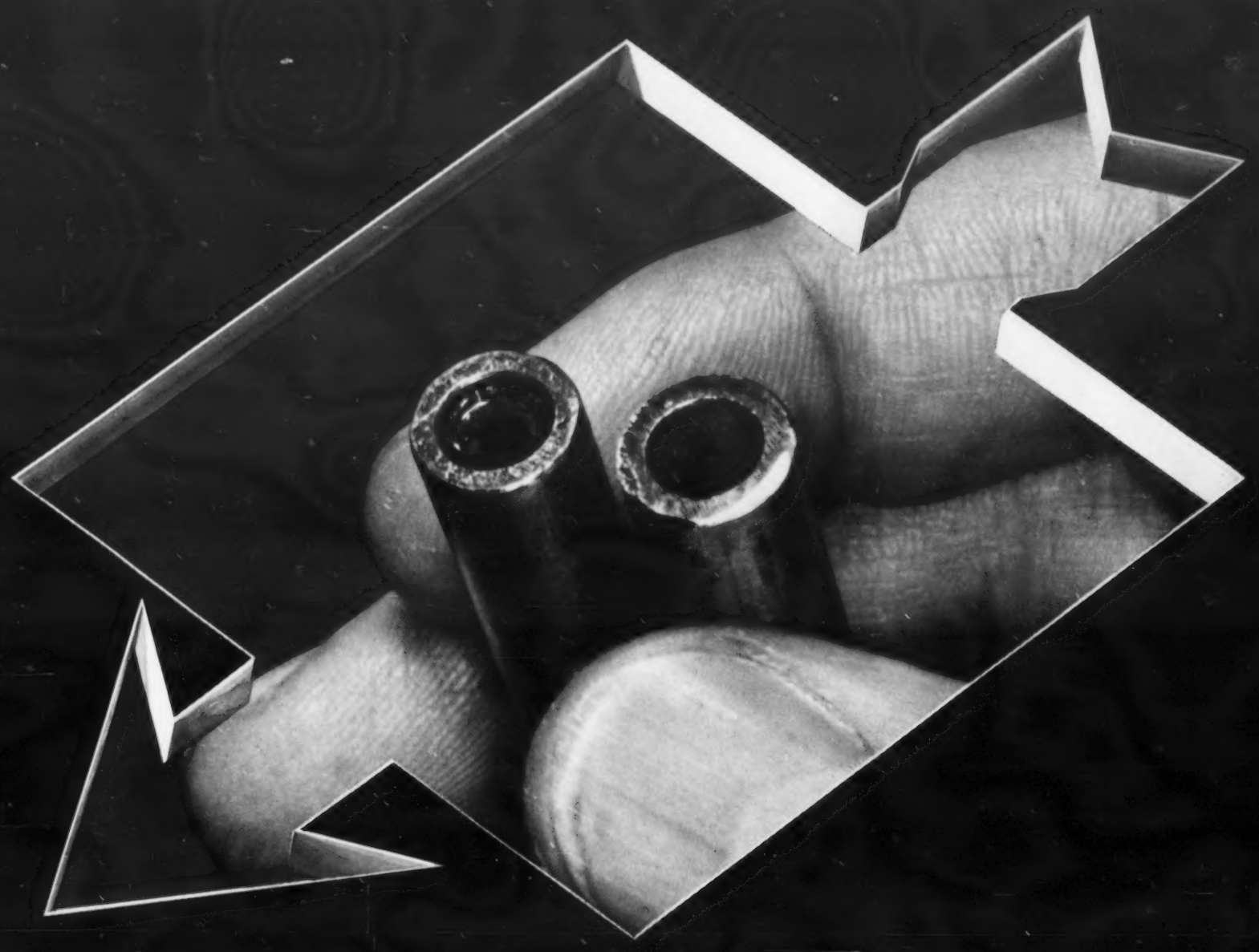

Two oils...two lines...one clogged...one cleaned

A Sunvis 700 oil and a regular oil were run through two equally clogged hydraulic lines. The regular oil couldn't remove the sludge. The Sunvis 700 oil cleaned its line thoroughly. That's one job it's made for . . . to clean out sludge deposits in hydraulic lines while it transmits power.

With a Sunvis 700 oil—like every Sunoco oil—you enjoy the best economy of all: the economy of quality. A Sunvis 700 oil lasts longer. The machinery it protects lasts longer. It prevents rust . . . ups output by reducing downtime.

FREE Trouble-Shooting Chart will help you spot and cure common hydraulic system troubles. For your copy, write to:

Sun Oil Company, Philadelphia 3, Pa., Department I-12.

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If you want more information on the problems faced by higher education, write to: Council for Financial Aid to Education, Inc., 6 E. 45th Street, New York 17, N. Y.

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P.A.'s Guide to Buying 10-Key Keyboard Adding Machines

Adding machines represent a basic piece of equipment for mechanizing office routines. They are used where computations involve addition and subtraction. As the table shows, practically all 10-key keyboard adding machines present their answers on a paper tape.

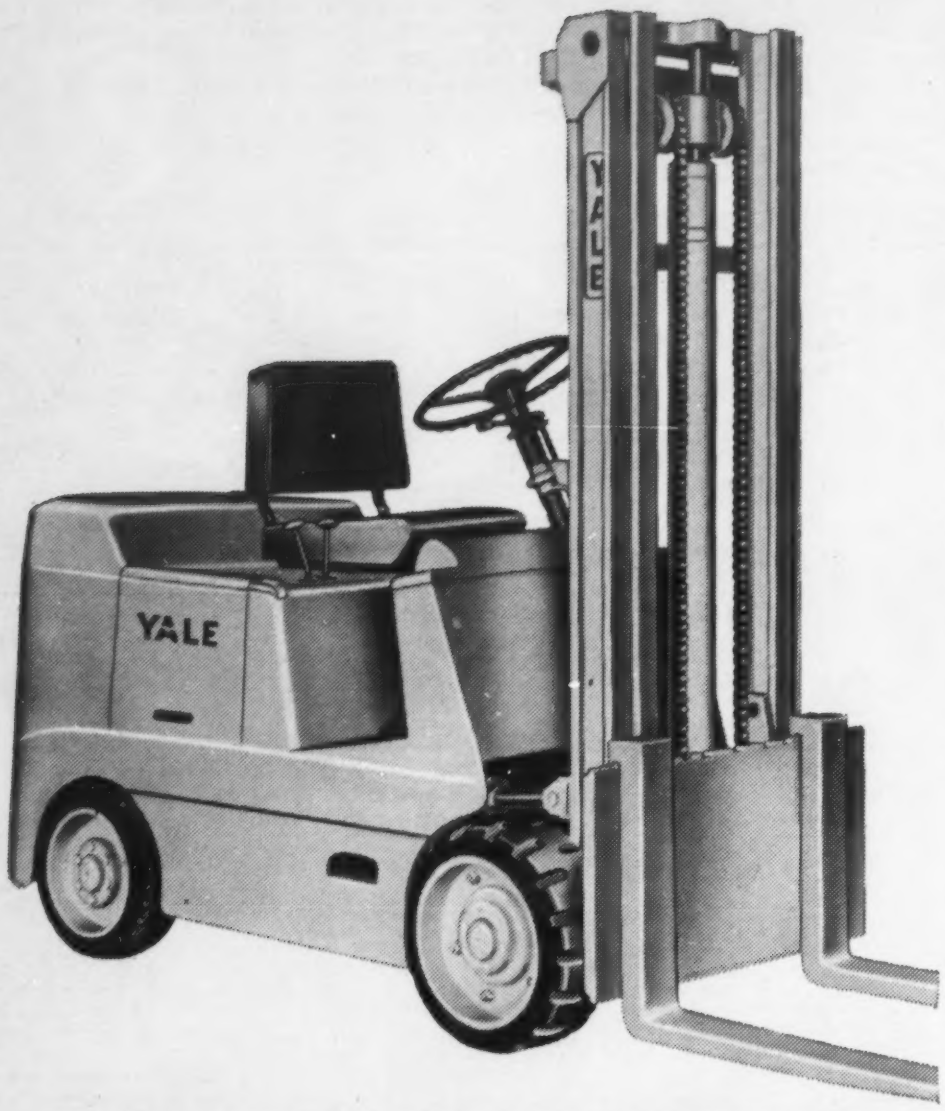
Besides 10-key adders, manufacturers offer full-keyboard machines. Generally the full-keyboard machines will perform more functions. Also they let the operator check figures before they are entered in the machine. On the other hand, the 10-key machine is more adaptable to highspeed touch operation.

Some of the machines listed have special features: automatic printing of credit balances, separate registers for making separate totals, carriage for printing on forms.

Once you have settled on the type machine best suited for the job consider these: durability, estimated life, value after depreciation, seller's policy on trade-ins.

Company	Model	Capacity		How Powered	Price	How Distributed
		List	Total			
"addo-x inc." 300 Park Ave., N. Y. 22, N. Y.	2341E (credit bal.) 44E	10 7	11 8	Electric Electric	$416* $198.50*	Dealers, distributors
Alma Office Machine Corp. 34 E. 30 St., N. Y., N. Y.	Everest M 58 Everest Multa-rapid Everest Addenda	10 11 10	11 11 11	Electric Electric Manual	$269.00 $369.00 $185.00	Dealers
Bohn Duplicator Co. 444 4th Ave., N. Y., N. Y.	10 (dial results)	11	..	Manual	$125	Dealers
Burroughs Corp. Detroit 32, Mich.	J 289, J 219 J 220 (credit bal.) J 215, J 216 (credit bal.) J 221, J 222 (credit bal.) J 217, J 218 (credit bal.) J 223, J 224 (credit bal.)	7 7 8 8 10 10	8 8 8 9 10 11	Electric Electric Electric Electric Electric Electric	$209, $294 $320 $315, $350 $326, $360 $360, $394 $370, $404	Branches, dealers
Clary Corp. 408 Junipero St., San Gabriel, Calif.	145 Deluxe (credit bal.) 147 Deluxe (credit bal.) 148 Standard	10 8 8		Electric Electric Electric	$359.50 $329.50 $229.50	Branch, dealers
Comptometer Corp. 1735 N. Paulina St., Chicago 22, Ill.	Comptograph 220 (tape and dial results) Comptograph 220S Comptograph 220M (tape and dial results) Comptograph 2T Duplex Comptograph 2TWS (Duplex-Shuttle)	11 9 11 11 11	12 10 13 12 12	Electric Electric Electric Electric Electric	$410 $330 $440 $520 $660	Branches, dealers
Facit, Inc. 404 Fourth Ave., N. Y., N. Y.	H-9-S-5 X-9-S-8, X-9-C-8 X-11-C-8, XX-11-C-8	8 9 10	9 9 11	Manual Electric Electric	$109.50 $259.50, $320 $355, $385	Dealers, sales offices in New York, Chicago, San Francisco
Friden, Inc. 2350 Washington Ave., San Leandro, Calif.	ACY-10, ABY-10 ABY-8 ABY-7	10 8 7	11 9 8	Electric Electric Electric	$369, $349 $334 $324	Authorized branch and agency managers
General-Gilbert Corp. 150 Broadway, N. Y. 38, N. Y.	407 (non-subtract) 408 (subtract) 409 (subtract) 811 (credit bal.)	7 7 9 11	7 8 9 12	Electric Electric Electric Electric	$109 $149 $179 $249	Dealers
Monroe Calculating Machine Co., Inc. 555 Mitchell St., Orange, N. J.	811H14 911V11 111V11 111V12HE 111V21 (duplex registers) 132V11 (13-in. carriage, with shuttle carriage 133V11) 133V21 (duplex registers, 13-in. shuttle carriage) 137V21 (duplex registers, 13-in. shuttle carriage) 135V11(autotabulation, auto return, 13-in. carriage)	8 9 11 11 11 11 11 11 11	9 10 12 12 12 12 12 12 12	Manual Electric Electric Manual and electric Electric Electric Electric Electric Electric	$149.50 $362 $394 $441 $496 $447.75 (132V11) $515 (133V11) $617 $617 $600	Branches
Olivetti Corp. of America 375 Park Ave., New York 22, N. Y.	Summa 15 Electrosumma 22 Electrosumma 21 Duplex Multisumma 22 (All with credit bal.)	10 12 12 12	11 13 13 13	Manual Electric Electric Electric	$188 $285 $460 $348	Branches, dealers
Regna Cash Registers, Inc. 175 Fifth Ave., New York 10, N. Y.	Adder Adder With subtraction With subtraction With subtraction With subtraction	6 6 7 8 7 9	6 7 7 8 7 10	Manual Manual Manual Manual Electric Electric	$99 $106 $128 $140 $169 $218	Dealers
Remington Rand Div., Sperry Rand Corp. 315 Fourth Ave., New York 10, N. Y.	30701-10 31002-10 DX-94	7 10 10		Electric Electric Electric	$209.50 $375 $455	Direct, agents, dealers Direct, agents Direct, agents
Smith-Corona Marchant, Inc. 701 E. Washington St., Syracuse, N. Y.	Smith-Corona 4010 4111 4113 Marchant A-11	 8 8 10 10	 8 9 11 11	 Electric Electric Electric Electric	 $309* $347* $389* $362.50*	 Branches, dealers
Swift Business Machine Corp. Great Barrington, Mass.	H (tape and dial results)	9	9	Manual	$99.50	Dealers
Underwood Corp. One Park Ave., New York 16, N. Y.	7120/5 9120/5 782A (Add-Mate) 7120P/5 9120P/5 9140P/5 11140P/5, 11240P/7 10140PCM/5 11140/5	7 8 7 7 8 8 10 10 10	8 9 8 8 9 9 11 10 11	Manual Manual Electric Electric Electric Electric Electric Electric Manual	$184 $194 $168.50 $294 $315 $362 $394, $520 $550 $294	Branches, agents
Victor Adding Machine Co. 3900 North Rockwell St., Chicago 18, Ill.	Automatic Printing Calculator (deluxe), Automatic Printing Calculator (special) Mult-O-Matic (deluxe), Mult-O-Matic (special) Custom (6 models credit bal., direct subtraction) Custom (7 models direct subtraction) Custom (4 models credit bal., direct subtraction) Custom (5 models direct subtraction) Imperial (credit bal., direct subtraction) Imperial (direct subtraction) Champion (credit bal., direct subtraction) Champion (direct subtraction) Champion (3 models, straight adders)	10 10 7 to 11 7 to 11 8 to 11 8 to 11 8 8 8 7 8 7 6 to 8	11 11 7 to 11 7 to 11 9 to 11 8 to 11 9 9 9 8 9 8 7 to 9	Electric Electric Electric Electric Manual Manual Electric, manual Electric, manual Electric, manual Electric, manual Electric, manual Electric, manual Manual	$635, $535 $525, $435 $300 to $394 $270 to $380 $225 to $275 $190 to $265 $261 (elec.), $181 (man.) $233 (elec.), $158 (man.) $227 (elec.), $159 (man.) $193 (elec.), $149 (man.) $205 (elec.), $139 (man.) $171 (elec.), $129 (man.) $99 to $119	Branches, dealers

* Includes federal excise tax. Except where noted, all machines present results on tape.



NEW YALE GASOLINE TRUCK LINE...COMPACT DIMENSIONS, 2-SPEED TRANSMISSION PROVIDE FAST CYCLE OPERATIONS. **Gives excellent gradeability and high tractive effort.** 80'-per-min. lift with full load—fast stacking action. Compact dimensions for high maneuverability, short turning radii. Widest channel roller spacing plus side thrust rollers resist off-center loading, lessen channel wear. Roller-mounted carriage, designed for all types of attachments, has 4 side thrust rollers. Exclusive trail assembly, mounted on dual articulating pins supported in rubber, provides greater stability, cushioned ride. Gasoline or LP-gas. Capacities: 3,000, 4,000, 5,000 lbs.

NEW YALE LOW SILHOUETTE ELECTRIC TRUCK LINE... PRECISE SPEED CONTROL COMBINED WITH SHORT-TURNING MANEUVERABILITY. **Mechanically actuated carbon pile speed control**—gives smooth starts and acceleration — produces infinite motor speeds! **Easy steering**—dual caster wheels mounted on ball bearings! Short turning radius—good maneuverability! **Low profile**—71" mast height. Available with Triplex Mast. Other features include—hydraulic wheel brakes — removable battery box—H-I single lever control for multiple function attachments. Capacities: 2,000, 3,000 lbs.

NEW LINES OF cut materials handling costs

Other new YALE cost-saving lines

NEW YALE 6,000 LB. CAPACITY ELECTRIC TRUCK—compact! High speed for faster cycle operation.

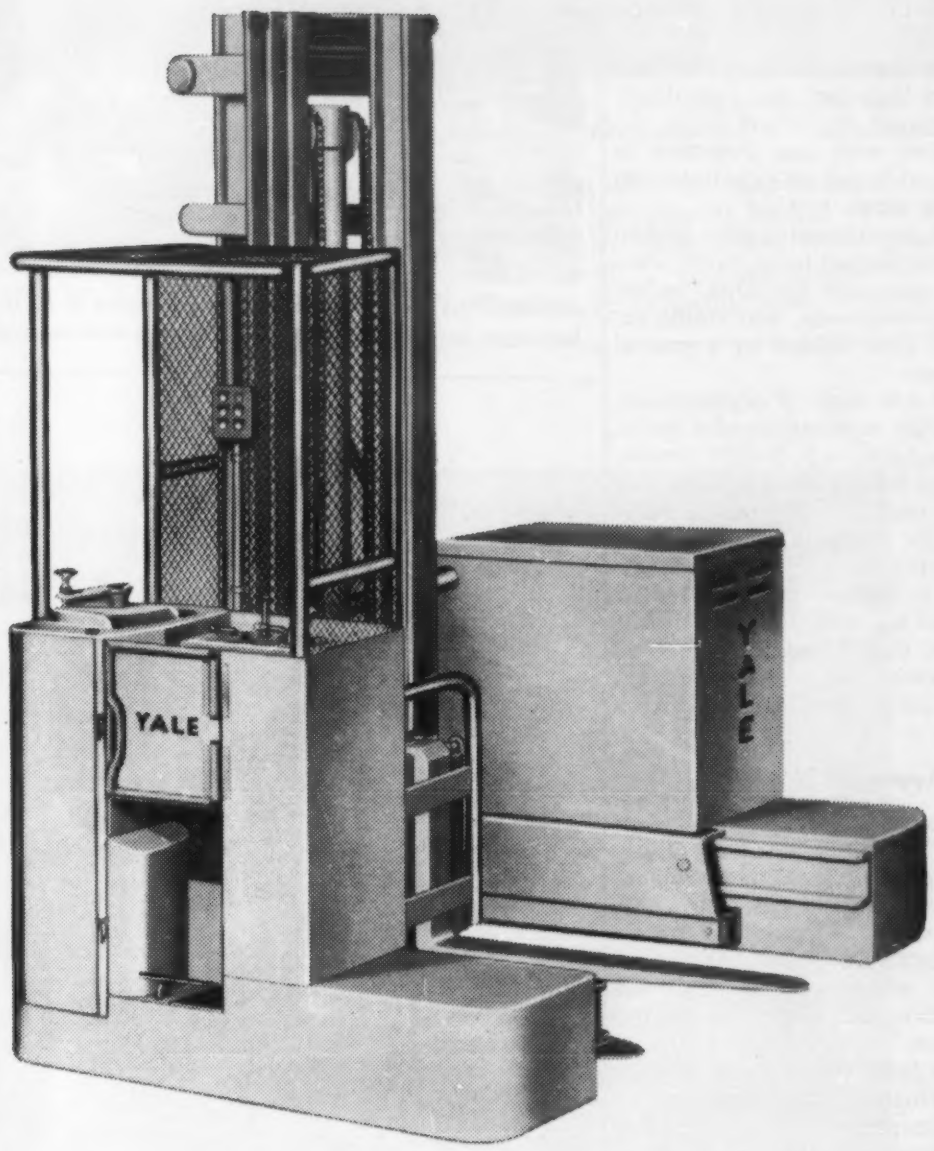
NEW YALE GASOLINE TRACTOR LINE—speeds indoor and outdoor hauling operations. 3,000, 4,000, 5,000 lbs. ultimate drawbar pull capacity.

NEW YALE WORKSAVER TRACTOR—economically speeds warehouse and trailer train order picking. Drawbar pull capacity: 700 lbs.

YALE INDUSTRIAL TRACTOR SHOVEL—does 10 hours' work in an 8-hour shift. Carry capacity: 2,500 lbs.

Yale Materials Handling Division, a Division of The Yale & Towne Manufacturing Company. Manufacturing Plants: Philadelphia, Pa., San Leandro, Calif., Forrest City, Ark.

NEW YALE END CONTROL ELECTRIC TRUCK LINE SPEEDS OPERATIONS THROUGH RECYCLING SPEED CONTROL. **Automatic recycling speed control**—speeds operations! **Smooth acceleration**—4 speeds forward and reverse with time delay between speeds for smooth acceleration! **Brakes**—mechanical brakes in wheels—step up to apply! Available with Triplex Mast. Steering wheel positioned for operator comfort and safety. Short turning radius! H-I single lever control for multiple function attachments. Capacities: 2,000, 3,000 lbs.



NEW YALE SIDE-LOADER ELECTRIC TRUCK LINE PROVIDES NEW CONCEPTS IN WAREHOUSE HANDLING. **Safe, fast handling** in narrow aisles, at extreme heights—increases storage space. **Easy, accurate load positioning**—cuts cycle time in rack position by 50 per cent. Handles palletized or long loads—high flexibility of application. 24-volt system—gives **high lifting speed.** Wheels rotate 90°—maneuverability in cross aisles. Yale Triplex Mast—rugged, stable, high lift. Capacity: 3,000 lbs.

YALE LIFT TRUCKS to ...increase profits

YALE HEAVY DUTY SERIES G-5 GASOLINE TRUCK—rugged design—compact for fast cycle operation. Capacities 15,000 to 20,000 lbs.

YALE HEAVY DUTY K-410 ELECTRIC TRUCK—heavy industry power—short turning radius. Capacities: 12,000 to 20,000 lbs.

NEW YALE WAREHOUSER with 24-volt system. Straddle or Extend-A-Load models. Capacities: 2,000, 3,000, 4,000 lbs.

Yale Materials Handling Division, Philadelphia 15, Pa.

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New Haven R.R. Revamps Freight

Reorganization Tailored To Fit Shippers' Needs

New Haven, Conn.—The New Haven Railroad has completely reorganized its freight traffic department with one objective in mind—tailored service based on shipper needs.

The department is now broken into five distinct units, sales, services, rates and divisions, industrial development, and traffic research, each headed by a general manager.

The new type of organization, under the supervision of Charles E. Ragland, v.p.-freight traffic, resulted from a complete analysis of the road's freight traffic situation. The study showed that since 1947, the New Haven had suffered a decline in its potential share of the New England freight market, though the market for all transportation modes increased about 25% during the same period.

New Approach Needed

"Therefore," explained Ragland, "we felt that some entirely fresh approach to the problem was essential, and the planned reorganization is pointed toward the establishment of a pattern of service which will be based on the needs and objectives of the shippers."

Schedules based upon shipper requirements, development of rates designed to afford attractive incentives and the provision of specialized equipment designed to solve material-handling problems will be coupled with a greatly accelerated sales push, Ragland said.

It was pointed out that the services of the traffic research department will be constantly available to the other four units as well as to individual shippers who care to make use of it.

Railway Express Moves to Stay Under Railroad Ownership

New York—Railway Express Agency directors proved again last week that they are going all-out to keep the huge express operation under railroad ownership.

A plan to reorganize and streamline the agency, offered on May 16, was rejected when some of 178 railroads refused to endorse it. The board quickly offered another plan, similar in many ways but modified as to its accounting features.

Special Committee Named

A special committee was named to study the new proposal which received unanimous support from the directors of Railway Express.

R.E.A. president William B. Johnson commented that the board considers the question of the purchase of the business by outside interests—Lehman Brothers, Morris Forgash of United States Freight Co., and others—but it became "obvious that the required unanimity could not be attained." The railroads have set July 31 as the new deadline for making a decision about the agency's future.

ADDRESSING the first shipper-carrier session is A. G. Anderson, traffic manager for Socony Mobil Oil Co. and chairman of the new group.

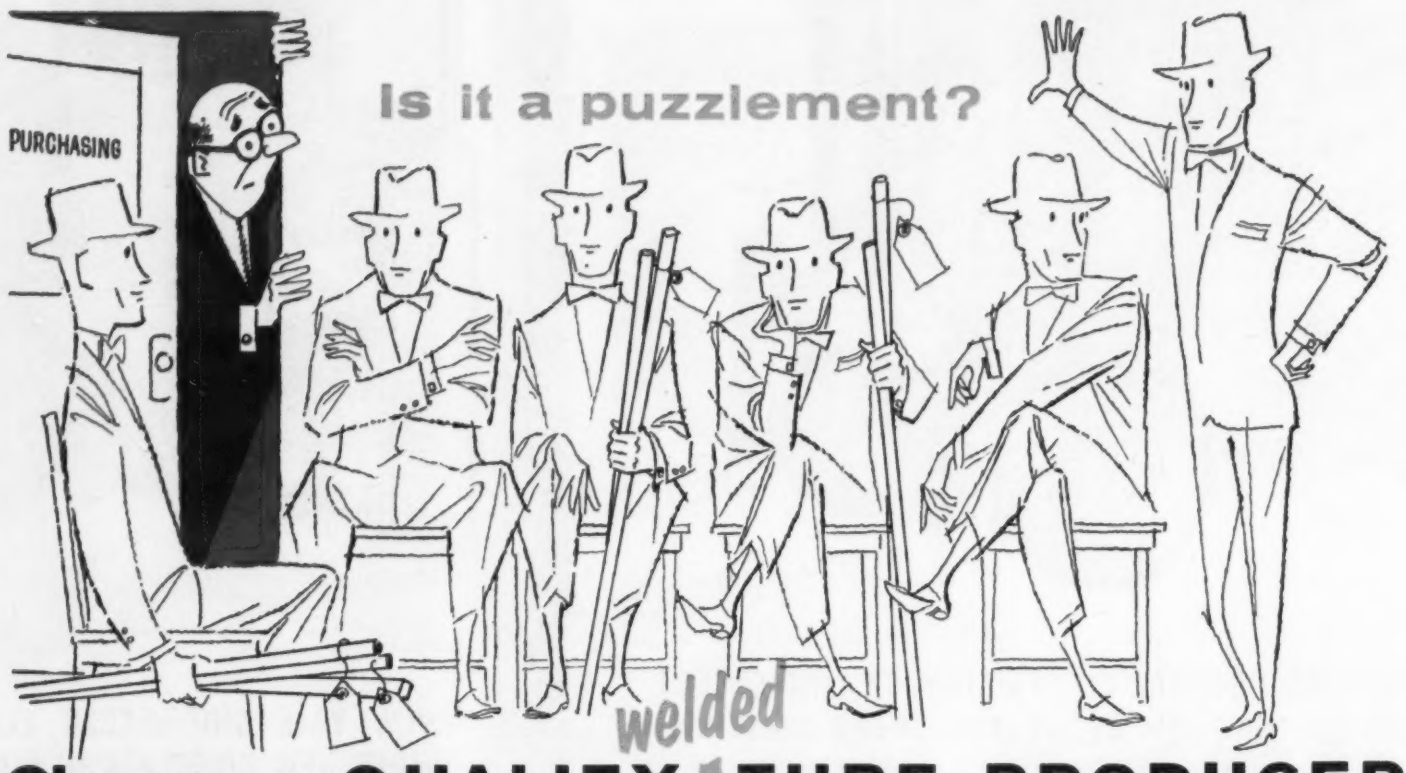
N.Y.C.I.A. Shippers and Carriers Meeting Lays Groundwork for Inter-Group Action

New York—Shipper and carrier members of New York's Commerce & Industry Association held their first meeting recently to lay the groundwork for inter-group contacts and action on matters of mutual importance.

The joint venture involves the association's Transportation Council, made up of major shippers, and the Domestic Carrier Committee, made up of railroads, freight forwarders, truckers, airlines, and water carriers.

Outlining the purpose of the meeting, Ralph C. Gross, general manager of the association, said, "Too often the users and suppliers of transportation meet under formal circumstances before regulatory bodies and pull against each other.

"We realize that situations of this kind can not always be avoided but it seems logical that some of the friction points might be removed through shipper-carrier negotiation or inter-committee meetings as are being planned here."



welded

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SIZE RANGE

In general, the industry offers Welded Carbon, Stainless Steel and other alloys in tubing sizes ranging from ⅛" to 6" O.D. in wall thicknesses from 3 to 25 ga. (B.W.G.).

ANALYSES

Welded Tubing is available in all weldable grades of Carbon, Stainless Steel and other alloys. Special metals are also available from some producers.

SHAPES

Welded Steel Tubing is generally available in round, square, and rectangular shape and in a myriad of special cross sections to order.

TYPES

Welded Steel Tubing can be broadly classified in the following categories of use: Structural, mechanical, pressure, corrosion-resisting, heat-resisting, sanitary, and ornamental.

LC-593

The Quality List

Armco Steel Corp.
Middletown, Ohio

The Babcock & Wilcox Co.
Tubular Products Div.
Beaver Falls, Pa.

The Carpenter Steel Co.
Alloy Tube Div.
Union, N. J.

Clayton Mark & Co.
Evanston, Ill.

Damascus Tube Co.
Greenville, Pa.

Jones & Laughlin Steel Corp.
Electricweld Tube Div.
Oil City, Pa.

National Tube Div.
United States Steel Corp.
Pittsburgh, Pa.

Ohio Seamless Tube Div.
of Copperweld Steel Co.
Shelby, Ohio

Republic Steel Corp.
Steel and Tubes Div.
Cleveland, Ohio

Revere Copper and Brass Inc.
Rome Manufacturing Co. Div.
Rome, N. Y.

Sawhill Tubular Products, Inc.
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Southeastern Metals Co.
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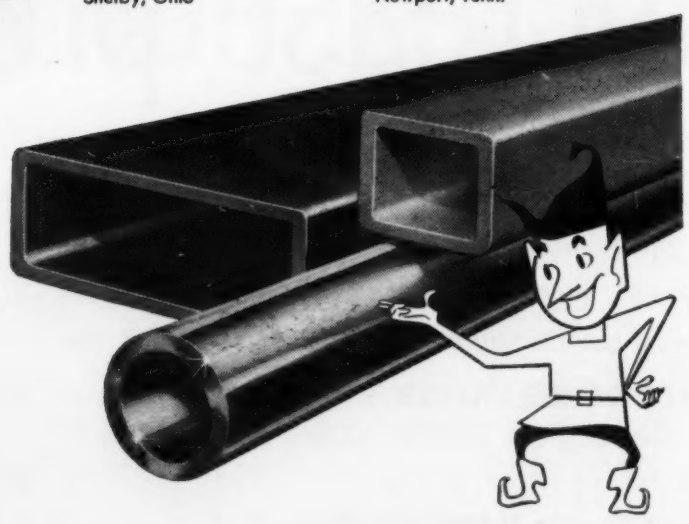
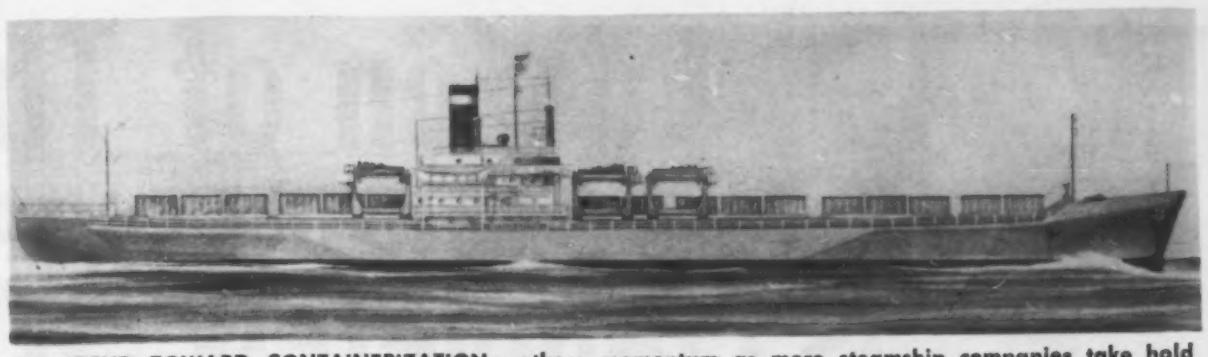


Growing Trend to Containerization Brings Benefits Plus Union Snags



THE TREND TOWARD CONTAINERIZATION gathers momentum as more steamship companies take hold of the concept. Here is an artist's sketch of a Grace Line C-3 freighter after conversion to a container ship.

San Francisco—Matson Navigation Co. is converting a C-3 freighter into a container ship which will be in service in the West Coast-Hawaii trade by early 1960.

Matson made the decision recently following a successful experiment in containerization it conducted last month with the cooperation of Santa Fe Railway. It involved a container shipment of canned pineapple from Hawaii to Hammond, Ind.

The 40-ton shipment arrived in two aluminum containers at Matson's Alameda, Calif., container yard and was hoisted directly from the ship onto a Santa Fe flatcar. The new containers are experimental, designed for side loading rather than end loading. A special frame with hydraulic cushioning devices holds them on the flatcar.

The new specially designed freighter will carry 300 such freight containers, each of which holds more than 40,000 lb. of cargo. Addition of the container ship to the Matson fleet will require erection of one new dockside gantry crane both in Honolulu and Los Angeles.

Cost of the freighter conversion, the new cranes, and added containers and chassis on which they are moved ashore, will be around $9 million.

Labor Figures Its Slice

While Matson officials were hailing the prospect of lower handling costs and other benefits from expanded container shipping, Harry Bridges and the I.L.W.U. were bringing up the matter of containerization for the first time as a formalized basis for negotiation.

At current negotiations, being held here with Pacific Maritime Association, the I.L.W.U. has asked that in addition to wage increases of 20¢ an hour for six-hour workers and 22¢ an hour for eight-hour workers, a special automation fund be set up.

Steamship firms would deposit into this fund a straight hour's pay for every hour of labor saved by such automation as containerized loads. Longshoremen would receive cash payments out of the fund on a regular basis as compensation for resulting fewer hours worked.

I.L.W.U. believes that shippers would still come out ahead on dockside automation since it would afford them faster turnaround time and more total cargo-carrying capability. West Coast Longshoremen's contract expires June 15, with about 17,000 dockworkers involved.

New York—The Grace Line is expanding further into containerized shipping and is converting two freighters into lift-on, lift-off container ships. Both will be ready for service late this year or early in 1960.

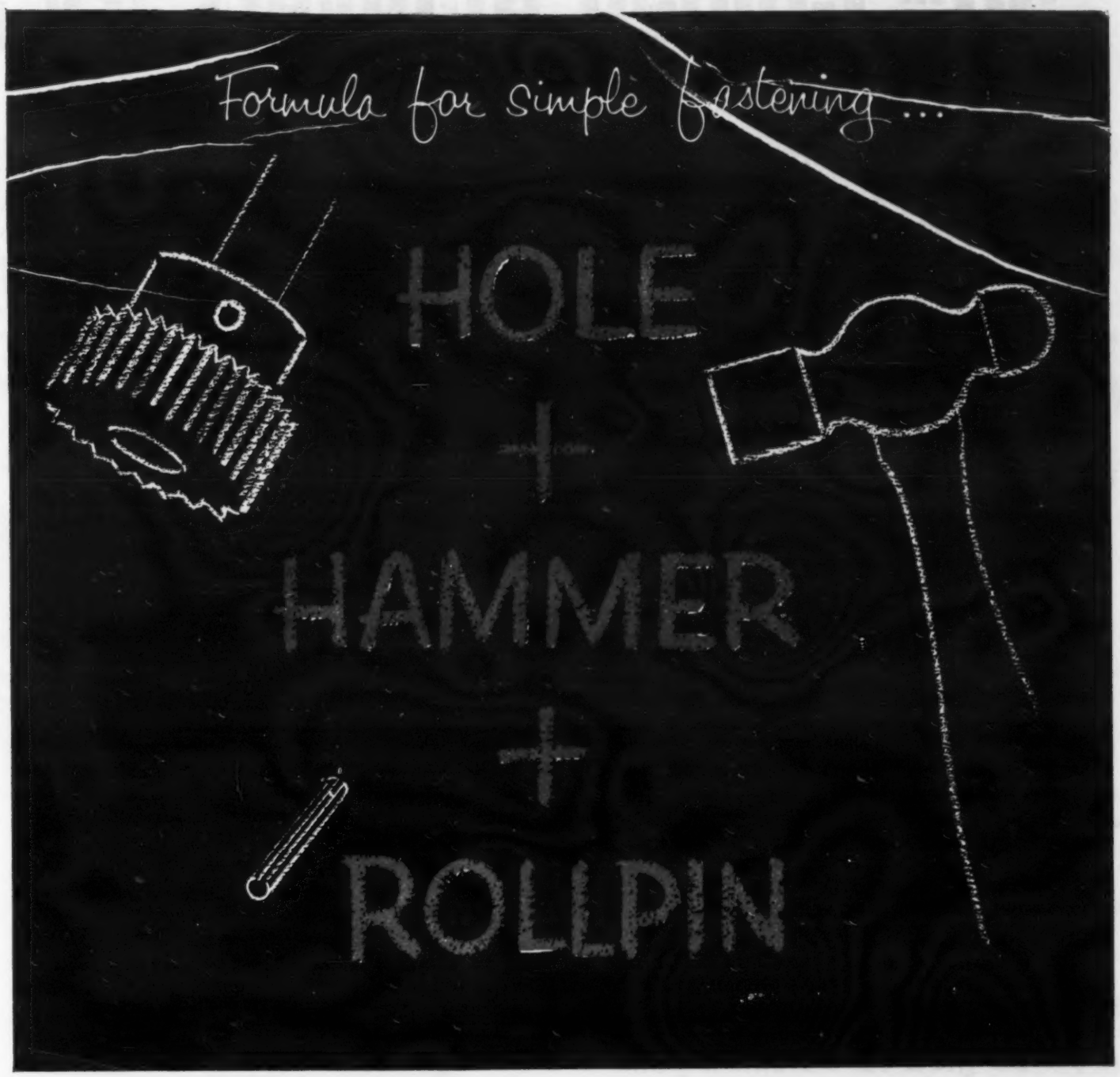
The steamship line has ordered 1,500 large cargo containers from the Highway Trailer Co. of Edgerton, Wis., with deliveries to start Aug. 1. The line has an option of increasing this order by 500 containers.

The Grace Line's two container ships, the Santa Eliana and the Santa Leonor, each will carry 476 aluminum and steel cargo boxes, a majority of them in cellular holds and the remainder as deck cargo.

New York—Seatrain Lines, Inc. now is carrying containerized freight between the ports of Savannah and New Orleans, under temporary authority granted by the I.C.C.

The coastal water carrier, which specializes in carrying fully loaded railroad cars and Seamobile containers, was previously authorized to carry freight between New York and Savannah to pick up north bound cargo, and New York and New Orleans. the line could not pick up Savannah freight for New Orleans and However, while making intermediate stops at Savannah to unload cargo from New York and vice versa.

The I.C.C. granted temporary authority after Seatrain filed an application backed by affidavits from civic and trade groups in both ports and by many shippers emphasizing need for the service.



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Benefits of Peacetime Missile Use Outlined at St. Louis P.A. Meeting

St. Louis—Purchasing agents will benefit when missiles with all their awesome, destructive warlike character are geared for peacetime applications, St. Louis P.A.'s were told.

Speaking at last month's session of the local association, Conrad L. Busse, a member of the Guided Missile Branch of the St. Louis Ordnance District, said: "The P.A. might be able to obtain emergency orders from New York or Los Angeles in a matter of minutes through freight-carrying rockets."

Busse also listed three other possible peacetime applications: transmitting weather information, opening world-wide communications, and finding life on other planets.

"Think of the blessing faster and more accurate weather information could be to the farmer, weekend planner, and even to shippers who must depend on accurate weather forecasting," Busse said.

Busse emphasized that peaceful missile applications offer the prospects of world-wide television programming of the adventure of outer space travel, and eventually the possibility of interplanetary business.

All these things now are just "hopes in the future" but the rapid pace of missile development indicates they all can still come true, he said.

For purchasing agents whose companies are engaged in missile manufacture, it was clear from Busse's detailed description of these defense weapons that the job of product orientation has not been simple. Because of speeds generated in flight, all kinds of new metals, electronic parts, and new fuels had to be found, tested, and finally purchased.

TRI-CITY Purchasing Agents Association officers for 1959-60 are, standing, left, T. R. Sterrett, national director; R. W. Fitzsimmons, secretary; R. C. Martensen, treasurer; and L. J. Sothmann, third vice president. Seated, left, K. W. Schricker, first vice president; E. W. Collison, president; and R. M. Blackburn, second vice president.

Russell Stark Speaks At Dayton P.A. Meet

Dayton, Ohio—Reasons why purchasing men join N.A.P.A. associations were assessed at last month's session of the Purchasing Agents Association of Dayton.

Asking "will purchasing ever grow up?" N.A.P.A. District 4 Vice President Russell Stark said:

"Some men join for fellowship, some for sociability, others to be joiners. The remainder of the members seek the experience of others to do a better job and to advance the profession."

Stark added: "N.A.P.A. does not stand for 'No Active Participation Anytime'." He said the only way for purchasing to reach maturity is through every member contributing to local programs and activities.

Oregon Chapter Ready To Hold 'Baseball Night'

Portland, Ore. — "Baseball Night" for the Purchasing Agents Association of Oregon has been scheduled for June 23. The traditional event marks the recess of association sessions during July and August.

William H. Hayden is chairman of the event, which usually attracts from 300 to 400 members. Hayden has reserved an entire section at Multnomah Stadium, home of the Portland team.

Central Illinois Officers

Lincoln, Ill. — Purchasing Agents Association of Central Illinois named its slate for 1959-60 at last month's session. The officers are: H. E. Modrow, president; L. G. McGary, vice president; R. G. Lottman, secretary-treasurer; and J. M. Anderson, national director.

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Lan-O-Kleen *PLUS* is dispensed from a patented, precision-action unit. A clog-proof measuring valve with a mechanical agitator delivers a thrifty, yet adequate individual portion. More than 435 pairs of hands can be washed with each dispenser filling.

FREE TRIAL OFFER. We'd be glad to send five pounds of Lan-O-Kleen *PLUS* and loan a dispenser for free trial. Or we'll send a smaller sample for evaluation. Just call your local WEST office. Or mail the coupon to our Long Island City Headquarters, Dept. 64.

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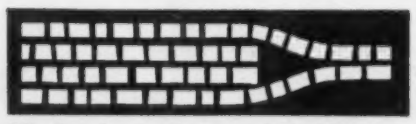

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Inexpensive Lift Truck Safety Device; New Order Form Gives Protection; Message Recorder Saves P.A.'s Time

1. Lift Truck Warning Device

Have you had a requisition for a lift-truck warning device in your plant lately? Realizing that even the best drivers have occasional accidents, here's how one company solved the problem—and in an inexpensive way too.

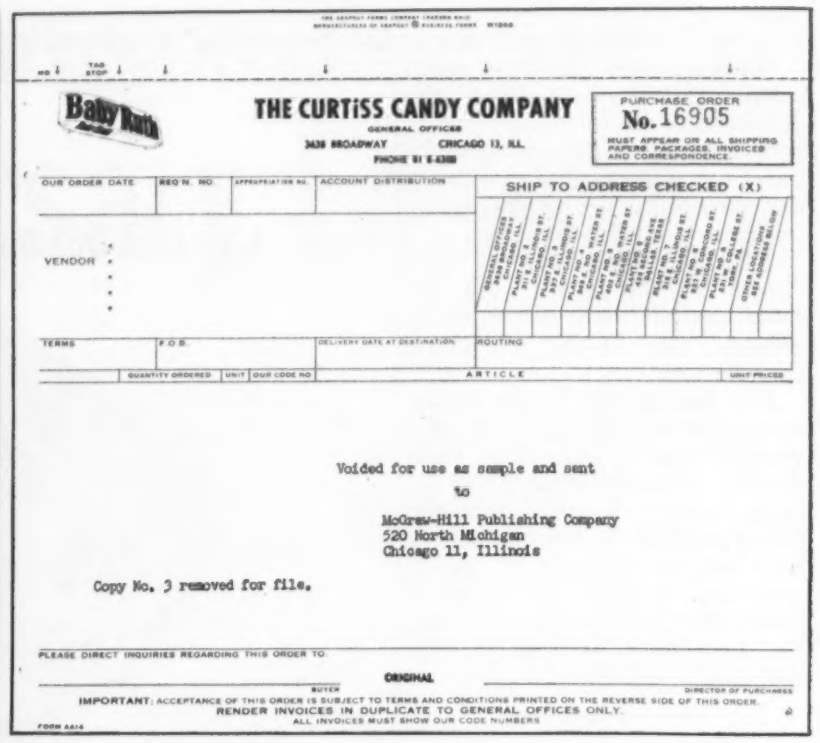
H. W. Lay & Co., Atlanta, has come up with a safety device that has eliminated lift-truck-pedestrian accidents. Main item in the gimmick is the gong of a fire or telephone bell, purchased from an electrical supply house. A ½-in. steel vane is welded to one edge of the gong so that it clanks against a ¾-in. steel ball as the truck's wheel turns. Device is fastened to the truck's axle with a 1x¼-in. bolt. One of the interesting features of the warning device is that the total cost is less than $5.

3. Electronic Message Recorder

A handy idea, picked up by at least one P.A., is the use of electronic telephone-answering and message-recording equipment. For the P.A. who has short visiting hours such equipment can be an "extra ear." He can devote full attention to those salesmen he does see, letting the Electronic Secretary (as one company calls its unit) record any important messages that come in during interviews.

For the P.A. who gradually has absorbed many office management functions, through his buying of printed forms, stationery, and office equipment, there is another use for these electronic helpers. At one Sylvania Electric Co. plant an Electronic Secretary is used by the mail clerk to record incoming messages which must be sent out by TWX. This saves several hours of sending messages through inter-office mail.

One model is small, portable, and is available on rental from many local telephone offices for about $12 per month.



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FORM AA14

2. New Purchase Order Form

Does your purchase order form give you the maximum protection possible? If you have been seeking a different type perhaps the new one now being used by the Curtiss Candy Co., Chicago, is the answer. The old form had five copies, the new one has six. The principal difference between the new and the old is the inclusion on the reverse side of the original copy a number of conditions designed by the legal department to provide maximum protection.

The new form is made slightly larger to provide space for more detailed information such as appropriation numbers and account distributions. Preprinted delivery addresses were included when the new form was laid out to cut typing time to a minimum. Additional change is the provision for counter signature so that the new form requires two signatures in place of one used on the old order.

FIGURE U-0252
Rising Stem. Solid Wedge. Taper Seat. 125 Pounds Steam Working Pressure. 200 Pounds Cold Water, Oil or Gas Pressure. Non-Shock.

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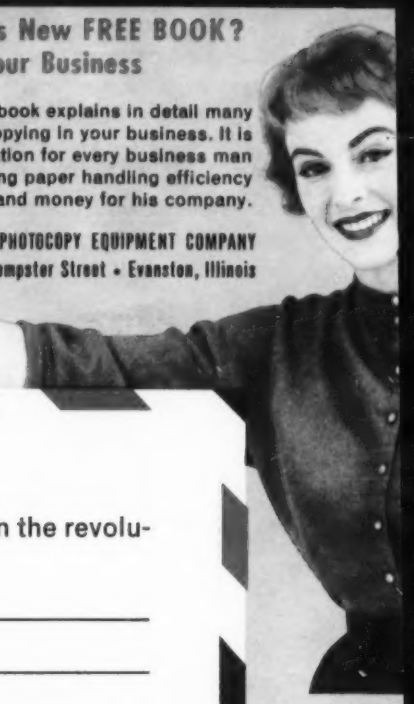

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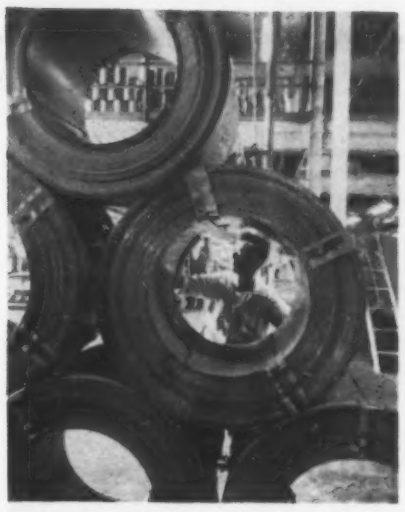

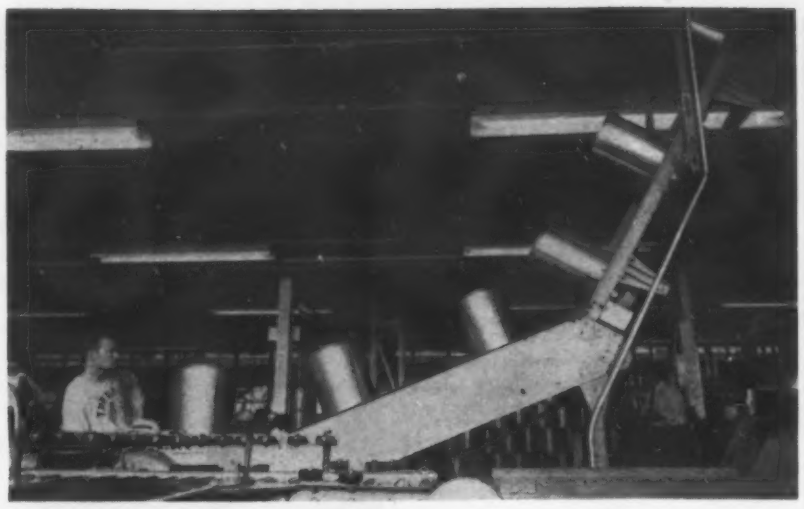

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New Automated Container Plant

Jersey City, N. J.—Inland Steel Container Co. unveiled new manufacturing facilities today which, the company boasted, feature special built-in quality and service features unique to the industry. The goal is to turn out lowest cost containers with extra rapid delivery and quality uniformity.

The $2.5 million "automated" plant addition will be capable of producing some 2,400 pails per hour compared to the previous line which turned out only about 1,700. Tops in the industry, this step-up will help reduce lead time on runs to less than half of that previously required. Inland said from coil shearing to completion, its new manufacturing process turns flat steel into pails within 24 hours.

Automated Features

Automated features of the new facility also include:

- Automatic handling to prevent mars, dents, and other imperfections and enable a higher quality pail to "go out of the door."
- An automatic paint spray system built around a newly designed centrifugal electrostatic application which allows a degree of control not previously seen in the industry.
- Automatic control of the baking cycle which is assured by ovens that have the ability to fluctuate in temperature quicker than most now being used in the operation.

Quality control is the watchword at the facility from coil shearing right through the manufacturing process. The entire line is designed for quick change. In minutes, it can be adapted to a new size or type of pail. It can produce pails from two to 7½ gal. in size, open or closed head containers, interior lined or unlined, etc.

Inland Steel container, a division of Inland Steel Co., has installed its own lithography facility at the plant, eliminating the fuss of sending out for lithography design and other work.

The Jersey City plant has actually made one operation out of a few distinct departments. It normally would schedule the pail-making operation, then effect tool changes, get the right crew to work on the pails and even bring in new dies, etc.

Now, however, the automatic pail line turns standard blanks into finished pails.

Kaiser Steel Doubles Output of Pipe At Napa, Calif., Fabrication Facilities

Oakland, Calif.—Kaiser Steel Corp.'s $2 million expansion program at its fabricating division plant, Napa, Calif., has doubled capacity of expanded pipe and machine shop output, and tripled miscellaneous fabricating.

With the completion of the 18-month project, Kaiser claims the Napa plant is now one of the largest in the world for the manufacture of line pipe for oil and gas transmission. The expansion program was initiated to keep pace with long-range demand for large diameter line pipe for oil and gas pipelines to be constructed in midwestern and western United States and Canada and to provide manufacturing flexibility.

Company officials said, "Production and employment have reached all-time highs as a result of the expansion. Currently there are more than 1,100 employees."

The Napa plant's new facilities make it possible to produce expanded electric weld pipe from 20 in. up to 36 in. in diameter and the size range of the pipe can be increased up to 42 in. O.D. Electric resistance weld pipe also is manufactured from 6⅝ in. to 20 in. in diameter.

Major New Facilities

Major new facilities include: additional welding, facing, expanding and testing operations, and storage areas. The biggest single piece of equipment is the plant's second hydraulic expander which tests the soundness of the weld, gives the pipe its final accurate diameter, and increases its tensile strength by a cold working of the steel.

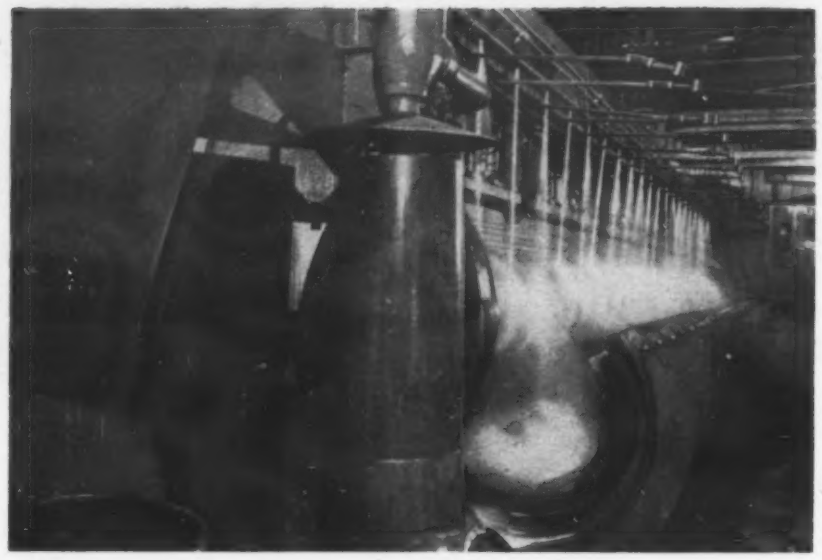
A new overhead magnetic crane to feed plate to the forming line and a second complete finishing line where the pipe is welded, expanded, end finished, and inspected and handled for shipping also were installed at the Napa plant.

At the forming line, the first step in pipe manufacture, 40-ft. long plate is made into pipe at a rate of a piece a minute. After manual tack welding, the pipe is put through 16 automatic inside and outside welding machines. It then is expanded under pressures up to 5,000 psi. to size and strengthen each piece.

One of the Largest

The Napa plant also is one of the largest and most diversified steel fabricators in California. It fabricates everything from plant machinery to sea-going barges.

In conjunction with the expansion, the Southern Pacific Railroad has put in a new three-mile spur track. Approximately 95% of the plant's pipe goes out by rail. The remaining 5% is shipped by barge to meet ships in the San Francisco Bay area.

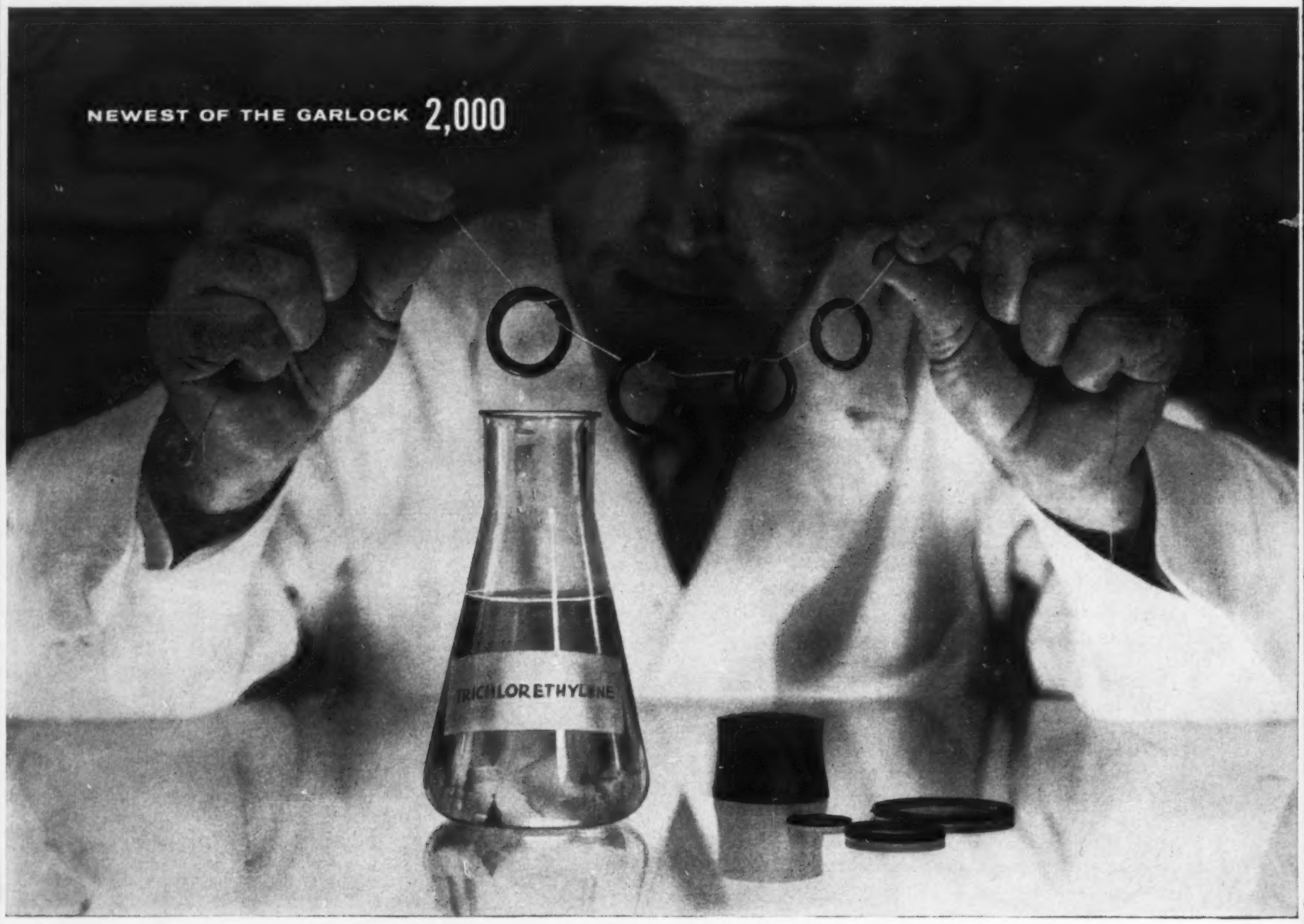


KAISER STEEL CORP.'s new expander at its Napa, Calif., plant goes into action. Applying 5,000 lb. of pressure per square inch, the expander, the biggest single piece of equipment in the plant, gives pipe its final accurate diameter, and increases its tensile strength by a cold working of the steel.

U.S.I.'s Houston Plant Operating Full-Scale

Houston, Texas—With six week's production under its belt, U. S. Industrial Chemicals Co.'s polyethylene plant here has hit full-capacity operation of high grade film. U.S.I. officials report that the high pressure polyethylene quality has exceeded expectations.

The new plant puts U.S.I.'s total annual production at 175 million lb. of high pressure polyethylene marketed under the trade name of Petrothene. Plans are underway which will double the capacity of the new plant by the last quarter of 1960. The addition will up total capacity to 250 million lb., making U.S.I. the second largest polyethylene producer in the world.



New Garlock Viton* Rubber Parts Offer You Low Swell in Solvents, Resistance to 600°F.

LOW SWELL, GOOD TENSILE STRENGTH DESPITE HEAT, SOLVENTS. Today's era of tremendous horsepower dictates that rubber be able to withstand not only corrosive fluids alone—nor high temperatures alone—but a combination of both. Garlock's new VITON rubber parts do exactly this. It's the only known rubber that will maintain low compression set, low swell, and good tensile strength in contact with most solvents at high temperatures.

IMMERSED FOR SEVEN DAYS. For example, Garlock VITON retains its duro, tensile strength, and elongation characteristics when immersed for one week in twenty of the most widely used—and perhaps harshest—solvents, lubricants, fluids, and acids on the market today. In the test illustrated two O-rings of ordinary Nitrile rubber and two rings of VITON were immersed in trichlorethylene; VITON (right) retained its original dimension—the Nitrile rubber (left) swelled almost 50%.

OVEN AGED AT 600° F. VITON can be oven aged in air at 600° F. for 24 hours, and at 400° F. for 2400. In both cases, it not only retains its excellent mechanical properties, but it remains usefully elastic, proving its value on either intermittent or continuous application.

OPENS MANY NEW USES. Jets and missiles are the more obvious applications for Garlock's new VITON (meets applicable military specifications for military aircraft, etc.). However, VITON is finding important new civilian uses as valve stem seals on truck engines, pump seals on automatic transmissions, and on gasoline pumps, thermostat bellows and domestic washing machines—practically any mechanical equipment where you need rubber parts which give maximum resistance to deterioration by liquid or heat.

VITON is also available as sealing elements in KLOZURE** Oil Seals, flexible members in MECHANIPAK** Mechanical Seals, "O" Rings, Cups, CHEVRON** Packing. VITON products are the newest of the Garlock 2,000 . . . two thousand different styles of packings, gaskets, and seals for every need. The only complete line. See your local Garlock representative, or write for further information.

THE GARLOCK PACKING COMPANY, Palmyra, N. Y.
For Prompt Service, contact one of our 30 sales offices and warehouses throughout the U.S. and Canada.

*DuPont Trademark **Registered Trademark

GARLOCK

Packings, Gaskets, Oil Seals, Mechanical Seals, Molded and Extruded Rubber, Plastic Products.

Dayton Rubber Establishes Division To Handle Automotive Product Line

Chicago—As a tie-in with its over-all expansion program, the Dayton Rubber Co. has organized a new division, Dayton Industrial Products Co., to handle its growing industrial and automotive product line.

Dayton Industrial will be headquartered here, according to C. M. Christie, Dayton Rubber president, "because it offers a fairly central location in relation to our manufacturing facilities for industrial products. It also is close to a large percentage of our customers in the original equipment field."

The new company is actually an outgrowth of a product diversification program launched in 1921. The introduction of the raw edge V-belt that year led to the formation of the Mechanical Goods Division, forerunner of Dayton Industrial.

All activities of Dayton Rubber's former mechanical goods division will be incorporated in the new company, Christie said. "A number of executives, department heads, and key personnel will be transferred from present headquarters in Dayton to the new location," the president added.

Large Number of Items

Dayton Industrial will produce such items as automotive V-belts, radiator and heater hose, industrial V-belts, hose and rollers, friction and plastic electrical tapes, graphic arts rollers, and lithographic blankets. Other lines are urethane products for industrial uses and a full range of molded and extruded industrial rubber products.

Industrial Products also will maintain direct liaison with all Dayton Rubber's manufacturing plants, including facilities now under construction at Springfield, Mo.

Marathon Opens New Paper Mill Facilities

Naheola, Ala.—Marathon, a division of American Can Co., opened its new paper mill here with a two-day celebration last month.

On the first day, employees and their families took the plant tour. The second day was set aside for American Can and Marathon officials and community leaders to tour the plant.

Highlight of the celebration was the golden log ceremony marking the opening of the plant and signalling the start of the tours.

MARATHON OFFICERS open Naheola, Ala. paper mill. Shown left, W. C. Stolk, Canco president; R. J. Sund, v.p.; J. E. Spalding, plant head.

New DX Sunray Oil Wax Plant to be Built At West Tulsa, Okla.

Tulsa, Okla.—DX Sunray Oil Co. will erect a wax manufacturing plant at its 75,000-bbl.-a-day refinery at West Tulsa. Construction of the manufacturing plant will start in September and completion of the $7-million facility is scheduled in 1960.

The operation, technically known as a dewaxing plant, will streamline lubricating oil manufacturing and nearly double the company's production of wax. The new facility, a fully integrated operation, will produce lubricating oils and finished waxes simultaneously from the same charge stock. It will replace three dewaxing plants now in operation, and manufacture five grades of wax.

Completed Program in 1958

DX Sunray, eighth largest lubricating oil producer in the United States, completed a $12 million expansion program in 1958 at its Tulsa and Duncan refineries to boost high-octane output.

Increased production of paraffin wax and manufacture of microcrystalline wax will result in an intensified sales program. The company also will start an advanced technical service for wax purchasers when the new unit is completed.

Some of the market areas for microcrystalline wax include: paper and packaging, chemical, electrical, and rubber industries. It also is used for laminating aluminum foil and other packaging needs such as milk and food containers.

There's a USS steel container to meet almost every shipping need

Example:

chemicals for cleaning

Shipments of countless products travel safely, their purity assured, in carbon or stainless-steel shipping containers from United States Steel.

Whatever your product, USS steel drums and pails offer the ultimate in protection in chemically clean steel containers in a variety of sizes and closures.

They represent the largest, most complete line available, for products as varied as paint and petroleum, chemicals and food, additives and essences.

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Factories: Los Angeles and Alameda, Calif. • Port Arthur, Texas Chicago, Ill. • New Orleans, La. • Sharon, Pa. • Camden, N. J.

United States Steel Products
Division of
United States Steel

A Purchasing Week Profile

Hank Hausermann . . . Master Brewer Turned P.A.

Portland, Ore.—Henry Hausermann knows his hops. He is not only P.A. for the Blitz-Weinhard Brewery but also is a master brewer trained in the art of beer making.

Hausermann was an assistant brewmaster for Blitz six years before he was made purchasing agent in 1956. His close knowledge of the art of brewing and of all the product phases of brewing and packaging beer has been helpful to him as a P.A. But his status as a Master Brewer has been invaluable in another way.

Waist Deep in Tradition

"This is one of the oldest businesses there is," said Hank Hausermann, "and it's waist deep in traditions. Brewery people are sometimes inclined to look suspiciously at a new way of doing something."

While the art of brewing has not changed basically over hundreds of years, beer making has become a highly competitive industry in which modernization pays off. Being a brewmaster has helped Hausermann both in evaluating new equipment and devices, and convincing other brewery executives of their worth.

Right now Blitz-Weinhard, which in its 103rd year is the oldest brewery organization in the Pacific Northwest, is in the midst of an expansion program. Studying and comparing specialized equipment for an all-new packaging plant has been taking a good share of Hausermann's working hours.

Handwork Now Automatic

"There have been rapid changes in the past few years in packaging machinery design. Where we used to put out 100 bottles a minute, now we're putting out 1,000 a minute. Handwork is now all automatic."

Hank has had his experience with handwork in a brewery. He first went to work for Blitz as an apprentice on graduation from high school in 1935. He wasn't sure then he wanted to be a brewer and after two years left.

In the intervening 10 years Hank worked in a steel mill in California, helped build bombers at Douglas Aircraft Co., and spent six years as a Multnomah County Deputy Sheriff. He served on the sheriff's staff at Vanport, the teeming war housing project outside Portland which almost overnight became Oregon's second largest "city."

In 1948 Hausermann decided to return to Blitz. He went to work in the brewing department. In 1950 the brewery management sent him to the Schwartz Brewing School in New York. There he took a seven month's course and returned as an assistant brewmaster. In 1953 he was awarded a scholarship to the Walterstein Laboratory in New York, where he spent eight weeks in concentrated technical schooling.

Duties of an assistant brewmaster, which Hank fulfilled until 1956, cover all phases of brewing, from fermentation through quality control. But above all is cleanliness.

"Thirty-six out of every 40 hours in a brewery is spent scrubbing and cleaning," said Hank. Surveying his desk with the usual accumulation of a P.A.'s paperwork, he said, "I often wish I could keep my desk as clean as we keep the brewery."

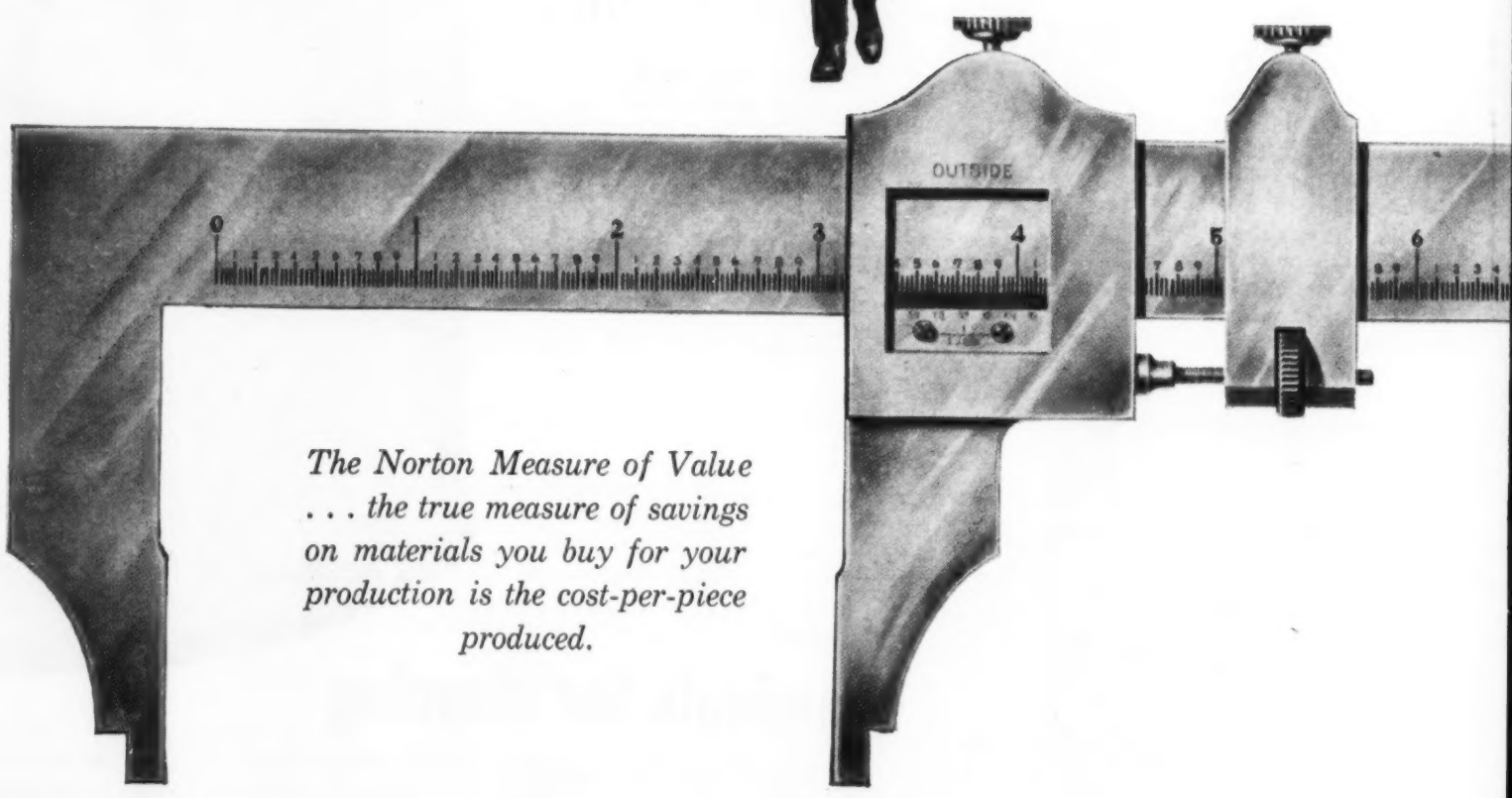
For relaxation Hausermann is an occasional golfer and "the greatest spectator sportsman you ever saw." And he likes a beer or two in the evening. Married, he has a 21-year old son who is just winding up a four-year hitch in the Marine Corps and a 13-year old daughter.

Not all of Hausermann's purchasing has had to do directly with beer. In the last two years, to supply a Blitz promotion stunt which offers anyone who asks, a Douglas fir tree, Hank has had to purchase 100,000 fir seedlings. It wasn't too much of a problem for him.

"One thing I've found out about this purchasing business," Hank observed. "If you want to buy something you can always find somebody who has that something to sell."

HAVING a brewmaster's background has helped Henry Hausermann in his career as purchasing head for Blitz-Weinhard Brewery, Portland.

Call your Norton Man — he has the experience, the products, and knows how to save you money where it counts. There's a Norton expert in the fields of — abrasives, grinding machines, refractories.



The Norton Measure of Value . . . the true measure of savings on materials you buy for your production is the cost-per-piece produced.

This Changing Purchasing Profession . . .

R. E. High Gets New Post At Monsanto Chemical

St. Louis—Robert E. High has been assigned the new post of supervisor of surplus equipment and materials disposal, purchasing and traffic department, Monsanto Chemical Co.

Richard M. Hoover succeeds High as a member of the engineering procurement section, Organic Chemicals Division. Alan J. Frankel moves into Hoover's former post, purchasing agent, Nitro, W. Va., plant.

James W. Campbell has been promoted to vice president in charge of purchasing, **Morton Foods Co.,** Dallas.

John A. Burnett has succeeded **Joseph W. Rodger,** who retired, as purchasing agent for the **Union Railroad Co.,** East Pittsburgh, Pa.

Ray H. Horton has been elected vice president of **Humble Oil & Refining Co.,** Houston. He had been serving as director of employee relations, purchasing, and general services and will continue in charge of these services.

Sylvester DeBellis, purchasing agent for **S. H. Counch Co., Inc.,** Quincy, Mass., recently celebrated 50 year's service with the firm. The company and its subsidiary, Counch Ordnance, Inc., had a dinner in his honor at which he received an inscribed watch and a check.

William F. Slook has joined **New York Air Brake Co.,** Watertown, N. Y., division as manager of purchases. He had been with Fairchild Aircraft Co. in Hagerstown, Md.

Henry A. Jewell, director of procurement and material control for Saco-Lowell Shops at Boston has been made works manager of the **Textile Machinery Division,** Easley, S. C.

Michael E. Errico, a former purchasing agent, has been elected assistant vice president by **Laminated Shim Co., Inc.,** Glenbrook, Conn. Before joining the firm's inside sales force in 1947, Errico had been purchasing agent and assistant to the plant manager, Allen-Billymre Corp., South Norwalk, Conn.

ROBERT I. COE, assistant purchasing agent of Mead Corp.'s Kingsport, Tennessee, Division has been promoted to purchasing agent. He succeeds the late W. R. Gilmer who served for 38 years.

CHARLES H. RIEBE has been assigned the new post of purchasing agent at Stambaugh Supply, Youngstown, Ohio. Riebe has been with the firm five years.

Obbie Lewis has been appointed manager, contracts and purchases, **Christie, Mitchell & Mitchell Co.,** Houston.

ALBERT O. DEGLING has been elected a vice president of American Can Co., New York, and will be in charge of purchasing, traffic, real estate, and general services. He will continue as head of purchasing, at Canco Division.

Obituaries

E. C. Rothwell, 67, Wyoming State purchasing agent for 12 years died May 18. He resigned as state purchasing agent last January.

J. Frank Markum, 53, purchasing agent and assistant office manager of Barron Kidd Oil Co., Dallas, died May 27.

John Power David, 69, retired purchasing agent for Magnolia Petroleum Co., Dallas, died May 28.

You can produce greater savings than you can buy

Economists could argue the definition of the value of a grinding wheel in many ways. But it would usually come down to this — What is it worth to the purchaser.

You can buy less expensive grinding wheels than Norton wheels and save on immediate cost. But if the lower cost wheels do not perform their jobs efficiently or cause production delays because of poor quality or wheel misapplication — you haven't made a bargain — you've made a costly mistake.

The only accurate measure of the value of a grinding wheel is how much it produces for you per dollar cost — not merely how much you paid for it. Here is why Norton grinding wheels are worth more to you —

Norton Company gives you the most advanced research engineering and manufacturing facilities in the entire abrasive field — and you get this great scope of detailed knowledge on a personal basis — your Norton Man.

Every Norton Man starts his career by spending a minimum of one year in a carefully planned training course in the Norton plant and a comparable period of training in the field to assure a broad, thorough understanding of grinding before he goes "on his own." The average experience of all Norton Men in the field is 15 years in addition to their specialized training. The Norton Man is the most knowledgeable man in abrasives that you can consult. Make him your consulting abrasive engineer.

He will make an Abrasive Requirement Study for you. This study lists the correct specifications for each abrasive job in your plant to assure you lowest cost-per-piece produced. He is also available for complete field testing on specific problems.

For example, your Norton Man can increase production by pointing out ways for better wheel usage and fewer wheel changes. He has the widest selection of grinding wheels in the industry from which to select the best wheel for new product grinding operations and for improving your current grinding jobs — both at the lowest cost. And with Norton grinding wheels you can be sure of precise duplication order after order.

Norton offers true abrasive economy. Economy that pays off in lower cost-per-piece produced. Call your Norton Man. NORTON COMPANY, General Offices, Worcester 6, Mass.

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Profitable Reading for Purchasing Agents

Aids to Purchasing

National Bureau of Standards Circular 552, Third Edition, lists names and prices of the standard materials that are issued by the bureau. It also gives information on certified compositions and purchasing procedures.

The National Bureau of Standards issues more than 550 different standards of metals, ores, ceramics, chemicals, hydrocarbons, and radioactive materials. About 250 of the standards are of certified chemical composition and 100 of these have been specifically prepared for use in spectroscopic analysis.

If you are interested in obtaining a copy, send 35¢ to the **Superintendent of Documents, U.S. Government Printing Office, Washington 25, D.C.**

Official 1959 Premier Edition of Office Equipment File is a complete guide to information on all types of modern office equipment. The file contains over 500 pages, many in full color, and is indexed for quick reference. The directory is divided into three parts, product use, manufacturer's name, and trade name. Priced at $15 and available from **Catalog Services Institute, 32 East Colorado Blvd., Pasadena, Calif.**

From Associations

Product and service profiles of more than 200 industrial organizations active in the development and utilization of atomic energy in the U.S. and abroad are presented in the 1959 Atomic Industry Directory of Products. Data in depth on products, equipment and services which have their primary application in the nuclear power and radiation fields is listed under 40 major classifications and more than 130 subcategories. Listed organizations include manufacturers, processors, architect-engineers and constructors, consultants, and suppliers of technical research services. The 132 page directory is available at $2.50 per copy from **Atomic Industrial Forum, 3 East 54th St., N.Y., N.Y.**

The 1959 price list and Index of American Standards lists the more than 1800 American Standards approved to date by the American Standards Association. A standard is approved as an American standard only if it is supported by a consensus of all national groups substantially concerned. Over 25 different fields are covered by the standards. Also included in the publication are the international standard recommendations published by the International Organization for Standardization and the International Electrotechnical Commission. The booklet is available free from the **American Standards Association, 70 East 45th St., N.Y., N.Y.**

From Manufacturers

Industrial uses of aluminum foil are discussed in 26-page booklet, entitled "Alcoa Industrial Aluminum Foil." The new book illustrates the many and varied uses for the thin metal in architectural, electrical, heating, textile, industrial packaging and other key applications. For the materials engineer and designer, the book provides a valuable insight into the potential uses for aluminum foil. Booklet is available from **Aluminum Company of America, 782 Alcoa Building, Pittsburgh, Pa.**

Cold drawn stainless steel wire is described in 77-page book. It describes the general qualities of 27 different types of ferritic, austenitic, ferritic-austenitic and martensitic stainless steels available. More specific information on these steels in the cold drawn condition includes data on tolerances, mechanical properties, magnetic properties, available finishes, sizes, forms, and applications. The broad treatment given stainless steels by this book makes it useful both as a reference manual and text. Copies can be obtained from **Uddeholm Company of America, 155 East 44th St., New York 17, N.Y.**

Industrial eyelets and eyeleting machines are described in 48-page catalog. It includes detailed information on the several classifications of eyelets and the complete line of United eyeleting equipment. The stock status of each eyelet is clearly indicated and the pieces are described and classified both by type and by using industries. Catalog is available from **Eyelet Dept., United Shoe Machinery Corp., 140 Federal St., Boston 7, Mass.**

Power master substation transformers are described in 8-page Bulletin No. GEA-5452A. It illustrates exterior and interior features and tells how the new transformers can increase the kva capacity of mounting pads as well as reduce operating and maintenance costs. Weights and dimensions table is included. Bulletin is available from **General Electric Co., Schenectady 5, N. Y.**

Aluminum Machining Chart provides tables of recommended speeds and feeds for six different machining operations on aluminum. A cutting speed conversion table is included for added convenience. The chart is printed on cardboard and is 3 hole punched and tabbed for ready reference. Complimentary copies can be obtained by writing **Peter A. Frasse & Co., Inc., 17 Grand St., N. Y. 13, N. Y.**

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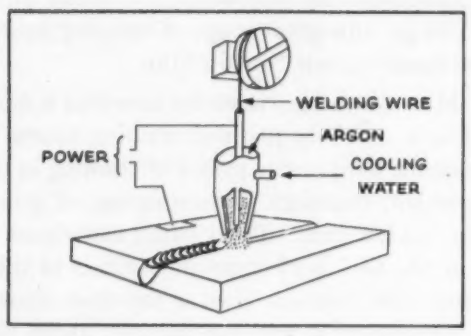
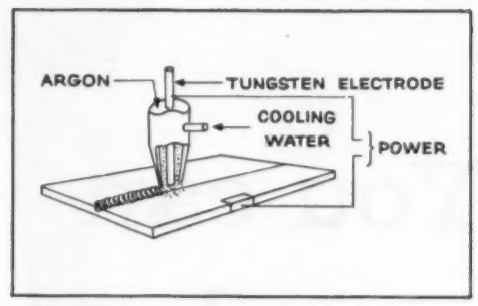
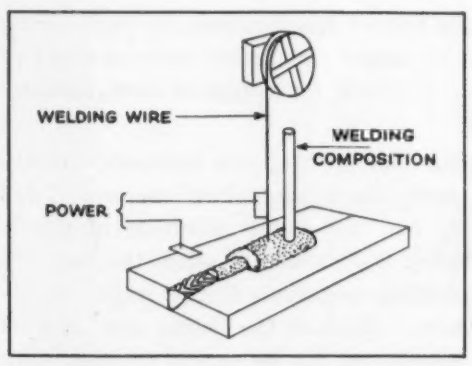
Offers You These Four Advanced Methods for Modern Metal Fabrication



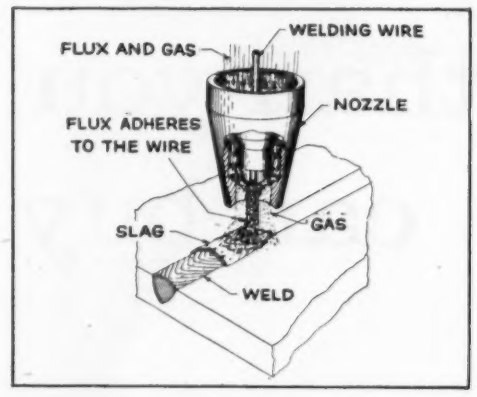
SIGMA Welding—Fastest growing fusion welding method . . . arc is maintained in a shield of argon gas between the consumable electrode filler metal and the workpiece. Welds nearly all commercial metals over ⅛-in. thick manually, and down to 0.050-in. thick automatically.



HELIARC Welding—Makes high quality welds in *any* commercial metal. Uses a non-consumable tungsten electrode in a shield of argon gas. Filler metal may be added to the weld if needed. Since no flux is used, finishing is not necessary.



UNIONMELT Welding—The submerged arc process for welding heavy-duty parts such as pipe, pressure vessels, ships, railroad and industrial equipment. Also used in surfacing for corrosion and wear resistance, and resurfacing for repair.



UNIONARC Welding—Uses new concept of magnetically coating wire with flux at the torch nozzle. Makes high-quality welds in all positions. Also used effectively to repair defects developed during casting or riser-removal on heavy carbon steel castings.

For information or help with any welding problem or to receive LINDE's bi-monthly "Metalworking Bulletin", write Dept. PW-63, Linde Company, Division of Union Carbide Corporation, 30 East 42nd Street, New York 17, N.Y. *In Canada:* Linde Company, Division of Union Carbide Canada Limited.

Linde UNION CARBIDE

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List of U.S. and Canadian suppliers of "Moly" lubricants is included in new Bulletin No. Lu-2c. Two principal lists are contained in the bulletin— chassis grease suppliers and specialty lubricant suppliers. Each listing includes the name of the company, its address, and the brand name under which it sells "Moly" lubricants. Bulletin is available from **Climax Molybdenum Co., Div. of American Metal Climax, Inc., 500 Fifth Ave., New York, N. Y.**

Office furniture price list is contained in 24-page catalog No. F-3004. Catalog illustrates and describes in detail every product in the line, including all accessories and special features, and lists the retail price of each item. Copies are available from **Borroughs Mfg. Co., 3002 N. Burdick St., Kalamazoo, Mich.**

High temperature ceramic insulated magnet wire is subject of 8-page brochure. Included in the brochure are the electrical insulation values of the various types of insulation available at elevated temperatures. It also includes data on ceramic potting cements which can be used with the Secon high temperature ceramic insulation. Copies can be obtained by writing **Secon Metals Corp., 7 Intervale St., White Plains, N. Y.**

New water soluble, anti-static fiber lubricant, Twitchell 7440, is described in technical bulletin No. 414. It contains data on static control, scourability, resistance to yellowing, and light and storage stability. Copies can be obtained by writing **Emery Industries, Inc., Dept. 5, Carew Tower, Cincinnati, Ohio.**

Meletron pressure switches are described in 36-page design handbook and catalog No. PS-59-60. Each page fully describes a specific type of switch (diaphragm, bourdon tube, or piston) and contains detailed information on electrical and operating characteristics, a comprehensive ordering chart, adjustment instructions, spare parts table, parts blowup of the model, and a dimension diagram. Catalog is available from **Barksdale Valves, 5125 Alcoa Ave., Los Angeles, Calif.**

Manifolds for industrial gases are described in 24-page catalog No. 829. It contains specific information — with illustrations — on capacities, dimensions and arrangement, along with general background material on the advantages of manifolding. Copies are available from **Air Reduction Sales Co., Div. of Air Reduction Co., Inc., 150 E. 42nd St., New York 17, N. Y.**

"A Report to Management" is title of 16-page brochure. It explains comprehensively the role of centralized lubrication—its advantages over manual methods of greasing and oiling industrial machinery; three economic areas of plant management where it can effect substantial savings; case histories of uses in all major industries, and detailed application data on basic centralized systems. Brochure is available from **Lincoln Engineering Co., Industrial Div., 4010 Goodfellow Blvd., St. Louis 20, Mo.**

Small valves for general application are described in 4-page brochure No. KS-1-N. Information pertaining to working pressures, specifications, construction features, and suggested applications has been included. Copies are available from **Kerotest Mfg. Co., 2525 Liberty Ave., Pittsburgh 22, Pa.**

Rayescent lamps are described in new booklet. It lists available lamps in standard sizes ranging from 2 in. by 2 in. to 24 in. by 24 in. It contains technical data and graphs covering lamp operating frequency, voltage effects and maintenance. A power consumption chart is included. Booklet may be obtained from **Westinghouse Lamp Div., Bloomfield, N. J.**

PT and 9SP blind rivets are described in 8-page brochure No. 8-409. It lists the advantages of the blind rivets and includes such technical information as recommended hole sizes, material specifications, shop practice notes and shear and tension strength values. Typical blind applications are illustrated with cross-section line drawings. Copies are available from **Huck Mfg. Co., 2480 Bellevue Ave., Detroit 7, Mich.**

Beryllium copper alloys are described in 12-page data sheet series. Chemical analysis, physical constants, and mechanical properties of each alloy are described. Heat treating procedures are outlined and illustrated. Forms in which the alloys are available also are listed. Copies are available from **Pennrold Div., Brush Beryllium Co., 501 Crescent Ave., Reading, Pa.**

Vertically-mounted motor-generator battery chargers are described in 4-page bulletin No. 6259. Dimensions, ratings of the various models, sizes and other specification information is included in chart form. Copies can be obtained by writing **Exide Industrial Div., Electric Storage Battery Co., Rising Sun & Adams Aves., Philadelphia 20, Pa.**

Guide to Effective, Economical Metal Cleaning is series of charts in file-folder form designed to simplify the selection of the correct cleaning method and chemical for the various metals and soils in the metalworking and finishing fields. Available from **Magnus Chemical Co., South Ave., Garwood, N. J.**

Bulletin T-300 discusses typical applications, capacities, and construction of steam traps for use in chemical plants, textile mills, rubber plants and all processes using steam. It includes tables on capacities, orafice sizes, parts, and seat pressures. Available from **Ross Midwest Fulton, 918 Woodley Rd., Dayton, Ohio.**

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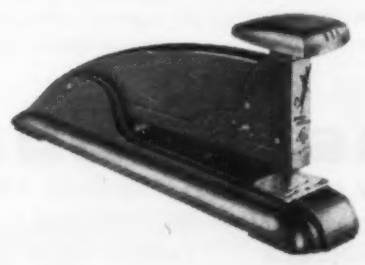
seen on more desks across the nation than any other brand!
Why? Because only SWINGLINE OFFICE STAPLERS have the famous open-channel for split-second loading...jam-proof performance. Exciting Jeweltone colors, ultra-modern design. No. 4 is a master desk stapler, holds 210 staples. No. 3 is a shorter desk model, holds 105 staples. No. 27 is a rugged one, holds 210 staples, can be imprinted with your company name, too! All sensibly priced. Contact your stationery supplier...today!



Swingline, Inc.
Long Island City 1, N. Y.

Meetings You May Want to Attend

First Listing

Purchasing Agents Association of Florida—Annual Purchaser's Seminar, co-sponsored by Florida State University, Tallahassee, July 23-25.

Public Works Congress and Equipment Show—Auditorium Arena, Seattle, Sept. 20-23.

National Metal Exposition — Chicago, Nov. 2-6.

National Electrical Contractors Association—Annual Convention and 5th National Electrical Exposition, Fontainbleau, Eden Rock, Deauville, and Carillon Hotels, Miami Beach, Fla., Nov. 9-12.

Electrical League of Western Pennsylvania—Industrial Electric Exposition, Penn-Sheraton Hotel, Pittsburgh, Nov. 17-19.

Previously Listed

JUNE

National Association of Purchasing Agents—44th Convention and Inform-A-Show, Waldorf-Astoria Hotel, New York, June 14-17.

JULY

International Trade Fair and Exposition—Chicago, July 2-18.

AUGUST

Institute of Surplus Dealers—Fall Trade Show, New York Trade Show Building, New York, Aug. 16-18.

Institute of Radio Engineers and Western Electronic Manufacturers Association—Western Electronic Show and Convention, Cow Palace, San Francisco, Aug. 18-21.

SEPTEMBER

Sixth International Packaging Exhibition—Olympia, London, Sept. 8-18.

Instrument Society of America—14th Annual Instrument-Automation Conference and Exhibit, International Amphitheater, Chicago, Sept. 21-25.

American Oil Chemists Society—Meeting and Exhibit, Statler-Hilton Hotel, Los Angeles, Sept. 23-30.

National Association of Purchasing Agents, 2nd District — 13th Annual Southwest Purchasing Conference, Tulsa, Sept. 24-25.

British Purchasing Offices Association—1959 Annual Conference and Minibition," Folkestone, Kent, Sept. 24-26.

National Association of Purchasing Agents, 1st District—13th Pacific Intermountain Purchasing Conference, Claremont Hotel, Berkeley, Calif., Sept. 25-26.

National Association of Oil Equipment Jobbers—Annual Convention and Trade Show, Hotel Leamington, Minneapolis, Sept. 27-29.

OCTOBER

National Association of Purchasing Agents, 7th District—16th Annual Conference, Read House, Chattanooga, Tenn., Oct. 11-13.

National Institute of Governmental Purchasing—14th Annual Conference and Products Exhibit, Hotel Sheraton Cleveland, Cleveland, Oct. 11-14.

National Association of Purchasing Agents, 9th District—Purchasing Conference, Sheraton-Kimball Hotel, Springfield, Mass., Oct. 15.

American Production and Inventory Control Society—3rd Annual Convention and Technical Conference, Hotel New Yorker, New York, Oct. 16-17.

American Standards Association—10th National Conference on Standards, Sheraton-Cadillac Hotel, Detroit, Oct. 20-22.

NOVEMBER

Air Conditioning and Refrigeration Institute—Exposition, Convention Hall, Atlantic City, N. J., Nov. 2-5.

Milwaukee Association of Purchasing Agents—1959 Products Show, Milwaukee Auditorium, Milwaukee, Nov. 10-12.

National Retail Lumber Dealers Association—6th Annual Building Products Exposition, Cleveland, Nov. 14-17.

International Automation Exposition and Congress—Trade Show Building, New York, Nov. 16-20.

Packaging Machinery Manufacturers Institute — 1959 Show, Coliseum, New York, Nov. 17-20.

List Your Meetings

Associations, societies, and committees interested in calling the attention of readers of Purchasing Week to their meetings are welcome to use this column. The gathering should be one of interest to purchasing agents. There is no charge.

Send announcements to: Meetings Calendar, Purchasing Week, 330 West 42nd Street, New York 36, N. Y.

In the World of Sales

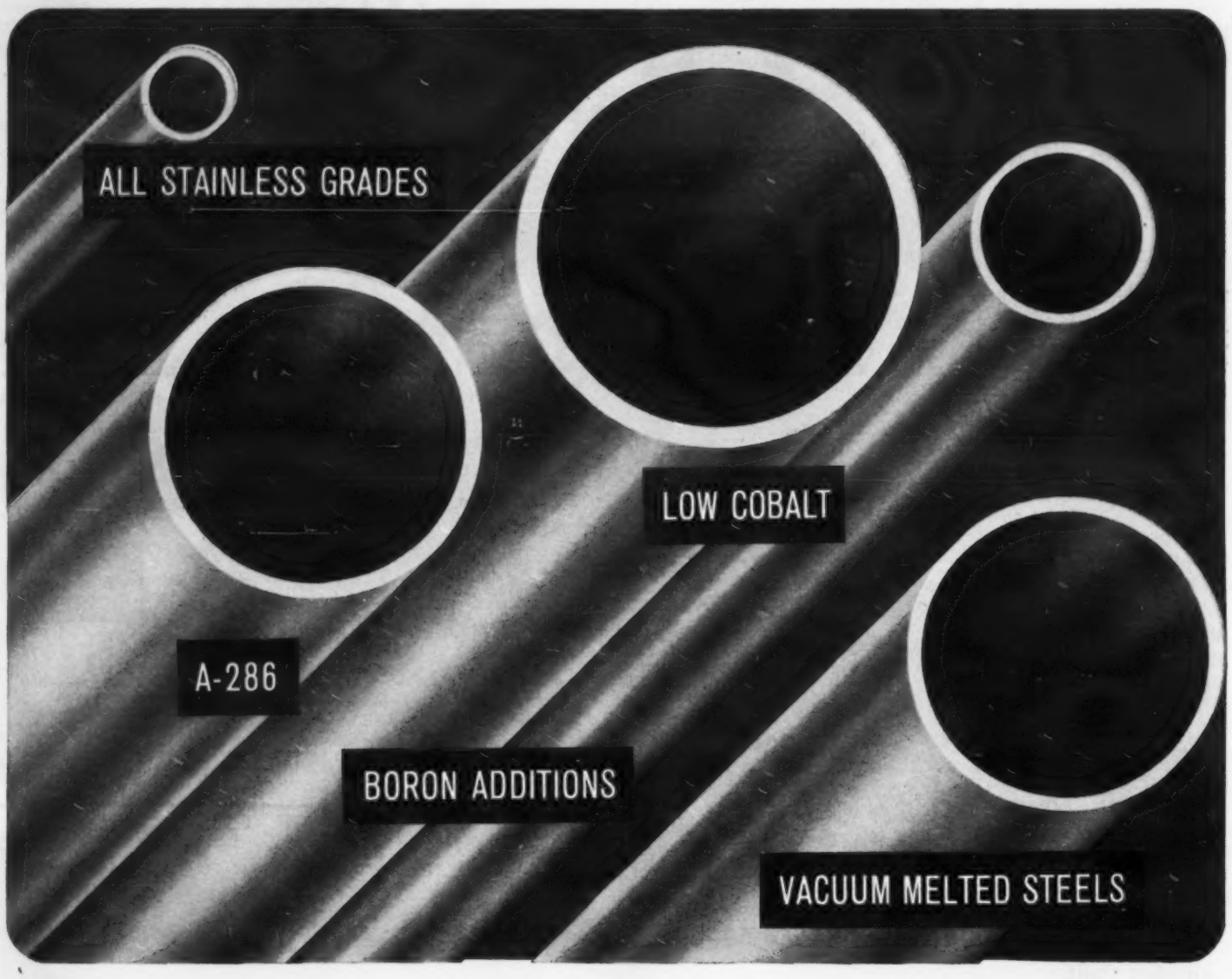
Paul E. Kelly has been advanced to manager of sales, the **Alloy Tube Division of Carpenter Steel Co.,** Union, N. J.

Walter C. Bass has joined **American Pulley Co.,** Philadelphia, as general sales manager. He had been eastern sales manager of Foote Bros. Gear & Machine Corp., Chicago.

Henry G. Dacey has taken the post of assistant vice president—sales with the **Pittsburgh Division, Screw & Bolt Corp. of America.** He had been general sales manager of Cleveland Cap Screw Co., Cleveland. **John Krause, Jr.,** and **Dale W. Patrick** have also been named assistant vice presidents-sales for the division.

D. F. McCarron, formerly president of the Loyd Scruggs Co. of St. Louis, has been appointed vice president in charge of sales, **Globe Hoist Co.,** Philadelphia.

Experience *— the added alloy in* ***Allegheny Stainless***



What are your needs in Seamless Tubing?

A-L offers widest range of materials and large diameters with walls as thin as .032".

Here is the widest range in materials in stainless seamless tubing available anywhere to meet your exact requirements and solve high-temperature or corrosion problems and save you money.

Allegheny Ludlum makes seamless tubing in all stainless grades including 309, 317, 318, 310, 416 and 446—normally difficult to obtain. Also available in high-strength alloys such as A-286, in vacuum melted steels, and in custom analyses grades such as low cobalt with .01 or .05 max. and small boron additions to standard types.

A-L also makes composite tubes with bonded combinations of carbon and stainless and other metals for special chlorine-corrosion applications in process equipment.

Allegheny Ludlum Stainless Tubing ranges from 3/16" OD to 3½" OD with wall thickness ranging from .013" to .375"—typical of the sizes that A-L can produce. For certain applications, .500" walls are possible. Some standard sizes in stock are 2½" OD—.032" walls, 3" OD—.042" walls and 3½" OD—.042" walls and 3½" OD—.058" walls. All sizes with true circularity, no dents or handling marks.

A-L Tubing is also available in small quantity orders, in random or cut lengths. Standard grades and sizes in stock throughout the country. Call your nearest A-L representative for all the help you need.

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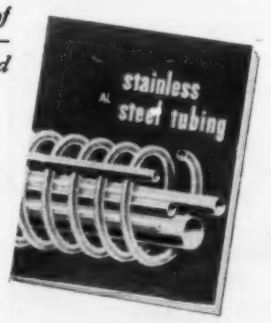
NEW! FREE—Write for your copy of Allegheny Ludlum Stainless Tubing—32-pages of technical data, grades and suggested applications.



WSW 7828

ALLEGHENY LUDLUM

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EVERY FORM OF STAINLESS . . . EVERY HELP IN USING IT

Purchasing Needs More Technical Men, Dallas Purchasers Told

Dallas—More and more technically trained men, preferably with engineering backgrounds, will be needed in purchasing in the next decade, Dallas P.A.'s were told last month.

Ken R. Geist, director of purchases, Allis-Chalmers Mfg. Corp., said that the technical background for buyers is accepted generally in the field today. He added that these new buyers also will have to have administrative ability, be able to get along well with others, and be adept at all phases of purchasing.

To develop well-rounded buyers, Geist recommended that buyers be shifted around within the department so that they gain experience in handling all buying functions.

"Get them active in the local purchasing agents' association," he added. "Another good idea is to have regular weekly buying meetings to discuss problems, and assign a special subject to one of the men to develop. Let them visit some vendors and other plants."

If the company has a tuition grant, the buyer should be encouraged to take university seminar courses at night, Geist said. Most important, Geist added, is to make the buyer's work sufficiently challenging to stimulate growth and to let his responsibility increase with his ability and experience.

DALLAS P.A.'S second $500 scholarship goes to a Southern Methodist University senior student. Gene Golden, right, receives award from Ben Brown, association professional development committee chairman, second from left. Looking on are Dr. Alton W. Baker, chairman of the department of management, S.M.U., left, and Paul Talley, association president, third from left.

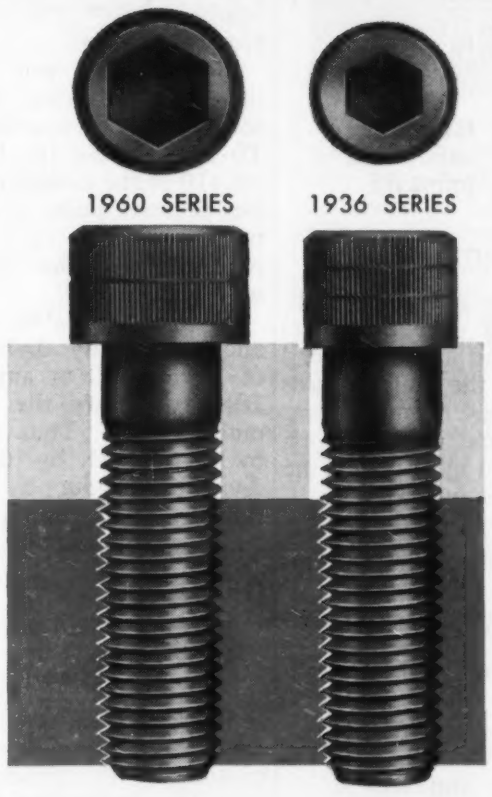
N.A.P.A. District V.P.'s Chapter Heads Named

R. S. HILL, Arizona P.A.A., is District III vice president.

F. L. SCOTT, Houston, P.A.A., is District II vice president.

C. S. PERKINS was named to head Northern California P.A.'s.

Allen's New '60 Series Socket Head Cap Screws



give up to 2⅓ times more load carrying capacity ...without indentation!

In Allen's new '60 Series, head diameter of sizes from ¼" up is now uniformly one and one-half times the body diameter. In many sizes (where this ratio was not called for by 1936 Series specifications) this will provide *more* under-the-head bearing surface, and a proportionate *increase* in clamping force. Loads are more evenly distributed, and the greater bearing area in many cases eliminates need for washers.

Socket sizes have been increased in many cases—greater wrenching area permits higher tightening torque—which resists fatigue failure, and lengthens the life of the threaded joint.

- A new 2-band knurl will identify all ALLEN Cap Screws (except Stainless Steel) that conform to the new '60 Series specifications. New labels on boxes will also identify these.
- The 1936 Series of Allen Cap Screws will continue to be available.

COMPARISON OF ALLEN 1960 SERIES AND 1936 SERIES SOCKET HEAD CAP SCREWS

SCREW SIZE	HEAD DIAMETER Minimum (inches)		BEARING SURFACE Minimum (square inches)		PERCENT OF INCREASE IN BEARING SURFACE[1]	TENSILE LOAD TO INDENT IN SOFT STEEL[2] (lbs.)		TORQUE INDUCED TENSILE LOAD TO INDENT IN SOFT STEEL[2] (lbs.)	
	1960 Series	1936 Series	1960 Series	1936 Series		1960 Series	1936 Series	1960 Series	1936 Series
¼	.365	.367	.044	.044	—	4,750	4,750	2,780	2,780
5/16	.457	.429	.070	.052	33	7,440	5,600	4,380	3,300
⅜	.550	.553	.111	.111	—	12,100	12,100	7,000	7,000
7/16	.642	.615	.140	.103	36	15,000	11,000	8,850	6,450
½	.735	.739	.183	.183	—	19,500	19,500	11,500	11,500
9/16	.921	.863	.293	.216	35	31,000	23,200	18,500	13,600
¾	1.107	.987	.424	.224	89	45,000	24,000	26,700	14,100
7/8	1.293	1.111	.585	.253	131	62,500	27,000	36,800	15,900
1	1.479	1.297	.768	.405	89	82,000	43,500	48,500	25,500

[1]Head tolerance revisions on Sizes #0 thru #10, ¼, ⅜, and ½ diameter have no significant effect on bearing surface or holding power of screws.
[2]Values based on .00025 inch indentation.

Ask your Industrial Distributor about ALLEN '60 Series Cap Screws.
Write for samples and complete specifications. Ask for Bulletin G-25.

ALLEN MANUFACTURING COMPANY
Hartford 1, Connecticut, U.S.A.
Stocked and sold by leading industrial distributors everywhere

ALLEN HEX-SOCKET SCREWS HEAD

NO MYSTERY TO MATHEMATICS

÷ × + − π

By LLEWELLYN R. SNYDER
City College of San Francisco

Greater use of computers and calculating machines has increased rather than lessened P.A.s' need for knowledge, speed, and accuracy in mathematics. Formulas, statistics, and figures, now quickly available through use of high-speed machines, are more than ever useful tools for business decisions. Purchasing's use of mathematics is usually an arithmetical application and thus it is inexcusable for purchasing men not to be proficient.

There is another reason why a review of purchasing mathematics can be profitable to you. The function of mathematics in business does not end with exact

★ Purchasing Week SPECIAL REPORT

solution of a specific problem. Purchasing executives are often called upon to think in terms of comparative costs, general market trends, relative values, approximate weights, and so forth.

Visualization of the relationships existing between quantities and qualities is necessary, and the ability to recognize significant figures in a given number is highly desirable. Thus if the carloadings in a particular area are 31,126 for a given week, the significant figures sufficiently accurate for general information are 30,000. If 569.75 lb., or even less accurately, 600 lb.

It is desirable always to estimate a reasonable or sensible answer to any problem even though calculating machines are available for computation. Skill and accuracy in work with figures are acquired through practice.

Here are shortcuts and a review of arithmetic applied to problems familiar to purchasing that should increase your efficiency in computing.

Addition + Subtraction − Multiplication × Division ÷

Addition:

Combine numbers totaling tens in columns to be added. As skill increases combine groups of two or more digits. When numbers in a column are repeated several times, multiplication may be used.

When long columns of several digits must be added, unavoidable interruptions may prevent completion. Record the sum of each column separately, place each sum as indicated in the following and then find the total.

Example:

8,403	
711	
2,306	
34	
5,555	
2,090	
4,847	
261	
1,908	
35	
28	Sums of
38	each column
22	
26,115	Total

The addition of decimals requires that decimals of the same power be placed in the same vertical column. Thus, in the addends and in the sum, the decimal points must be placed directly above or below one another.

No method of checking addition gives absolute proof of accuracy. If the columns have been added downward (preferably), check by adding upward; and vice versa.

Subtraction:

As in addition, the subtraction of decimals requires that decimals of the same power be placed in the same vertical column. Thus in minuend, subtrahend, and remainder, decimal points must be placed directly above or below one another.

Make it a rule always to prove subtraction by adding the remainder to the subtrahend. The result should equal the minuend.

Example:

$458.96	Minuend
− 129.37	Subtrahend
329.59	Remainder
+ 129.37	Subtrahend
$458.96	Remainder + subtrahend = minuend

Multiplication:

Multiplication may be simplified when either or both factors (multiplicand and multiplier) end in zeros. Omit the ending zeros from the process of multiplication, the required product then being determined by annexing the number of zeros omitted.

Example:

6,400	Factor and multiplicand
x 850	Factor and multiplier
320	
512	
5,440,000	Product (000 annexed)

In multiplication, the product will have as many decimal places as in the two factors together. If there are not so many decimals in the product as in the multiplicand and multiplier together, prefix as many zeros to the product as are necessary.

Example:

48.261	
x 5.2	
96522	
241305	
2509572	Product is 250.9572

Example:

.008006	
.76	
48036	
56042	
608456	Product is .00608456 (00 prefixed)

Prove the product of multiplication by transposing the factors and again multiplying. Or better, prove the product by division of the product by either of the factors, preferably by the multiplier.

Multiplication is, in itself, a short method of adding. There are approximately 20 or more short methods of multiplying. A half dozen or more of these "short cuts" are worth your effort in learning, though certainly they are not generally essential. To the knowledge of the author, the only modern text with any fairly comprehensive discussion of such short methods of multiplication is to be found in Appendix I of "Essential Business Mathematics," 3/e, 1958, McGraw-Hill Book Co.

Nevertheless, you should utilize the following time-saving short method whenever possible: To multiply by 10, 100, 1,000, etc. (10 or the powers of 10) move the decimal point in the multiplicand to the right as many places as there are zeros in the multiplier.

When practicable, utilize the aliquot (equally divisibly) parts of 100 (or 10 or any power of 10) to simplify the process of multiplication. Thus to multiply by 50: Multiply by 100 and then divide the product by 2. To multiply by 33⅓, multiply by 100 and divide product by 3, etc.

Division:

Example:

Divisor 7)1,981 Dividend
283 Quotient

If the divisor ends in zeros, cancellation should be employed to simplify the process of division. Thus to divide 5,472,000 by 300:

Example:

18,240
3φφ)5,4720,0φφ

If decimals occur in the divisor, it is recommended that they be eliminated before proceeding with division by moving the decimal point in the divisor to the right as far as necessary to make it a whole number, then moving the decimal point in the dividend the same number of places to the right annexing as many zeros as may be necessary, and then, finally, placing the decimal point in the quotient directly over the decimal point in this new dividend. Thus to divide 1.93528 by 28.46.

Example: Move the decimal in the divisor 28.46 two places to the right to obtain 2846. Move the decimal in the dividend 1.93528 also two places to the right to obtain 193.528. Locate the decimal in the quotient directly above the decimal point in the new dividend. Thus:

28.46)1.93528

2846)193.528

.068

2846)193.528
170 76

22 768
22 768

Proof of accuracy in division may be determined by multiplying quotient by divisor and then adding remainder if any. This number should equal dividend.

Proportion

On occasions, it may be helpful to state a problem as a proportion when solving for a missing fourth term when only three terms are known. When two quantities are related to each other and the first becomes greater when the second also becomes greater (or smaller when the first becomes smaller) it is known as a direct proportion.

Example of a direct proportion: A mixing operation produces 4,800 gal. of chemicals in 120 min. How long will it take to produce 5,700 gal. of chemicals?

$$\frac{120}{x} = \frac{4{,}800}{5{,}700}$$

$$x = \frac{120 \times 5{,}700}{4{,}800} = 142.5 \text{ (min.)}$$

When two quantities are related to each other and the first becomes greater but the second becomes smaller (or greater when the first becomes smaller), it is an inverse proportion.

Example of an inverse proportion: In buying construction or maintenance service—if 60 men can do a job in 8 days, how many men will be required to do the job in 5 days?

$$\frac{x}{60} = \frac{8}{5}$$

$$x = \frac{60 \times 8}{5} = 96 \text{ (men)}$$

From the preceding examples, it is apparent that in solving a problem by proportion it must first be determined whether it is a direct or an inverse proportion. You may prefer to solve such problems in their entirety as problems in fractions. If so, it is necessary only to determine whether the answer should be greater or smaller. As problem in fractions it would appear:

$$\frac{5{,}700}{4{,}800} \times 120 = 142.5 \text{ (min.)}$$

$$\frac{8}{5} \times 60 = 96 \text{ (men)}$$

Llwellyn R. Snyder teaches mathematics at the City College of San Francisco. He has also been a faculty member of Heald Business College, San Francisco State College, and the School of Accountancy of Golden Gate College.

Mr. Snyder combines the academic with the practical. His experience includes nine years in advertising and sales promotion. For 16 years he also has served as an income tax and accounting consultant.

Mr. Snyder is the author of Elements of Business Mathematics for Colleges, 1956, and also, Essential Business Mathematics, 1958. Both books were published by McGraw-Hill Book Co.

...here's a primer for P.A.'s 2:4::4:8 √

Simple Interest and Bank Discount

Simple interest may be defined as the product of the principal, the time, and the rate of interest. Expressed as an equation:

$$\text{Simple interest} = \text{principal} \times \frac{\text{number of days}}{\text{days in year}} \times \text{rate of interest}$$

Because the number of days may be counted by assuming that all months contain 30 days or by counting the actual number of days, and the days in the year may be considered as a business year of 360 days or a calendar year of 365 days, the time factor in the interest equation may vary. Take special note that if the due date of an obligation falls on a non-business day (legal holiday, Sunday, or Saturday in most states) the due date is postponed to the first business day following but interest is charged for the non-business day or days. Three kinds of interest are in general use:

1. Ordinary interest at 30-day month time

$$= \text{principal} \times \frac{\text{30-day-month time}}{360} \times \text{rate of interest}$$

2. Ordinary interest at exact time

$$= \text{principal} \times \frac{\text{actual time in days}}{360} \times \text{rate of interest}$$

3. Exact or Accurate interest

$$= \text{principal} \times \frac{\text{actual time in days}}{365} \times \text{rate of interest}$$

It is evident that interest on $1,000 at 6% from Apr. 30 to June 30 could be computed as follows:

Example 1: $\$1{,}000 \times \frac{60}{360} \times \frac{6}{100} = \$10$

Example 2: $\$1{,}000 \times \frac{61}{360} \times \frac{6}{100} = \$10.17$

Example 3: $\$1{,}000 \times \frac{61}{365} \times \frac{6}{100} = \$10.03$

In general business practice, ordinary interest at 30-day-month time is used primarily for periodic repayment plans such as monthly payments on real-estate mortgages, installment purchases, and certain types of personal borrowing and in computing accrued interest on corporate bonds (in this latter instance it is commonly known as ordinary interest at bond-time). Ordinary interest at exact time is generally used for commercial, industrial, and personal notes, and for most business transactions.

Accurate or exact interest is not customary in most business transactions and is used primarily in computing interest payments on government obligations.

When it is desired to find the effective rate of ordinary simple interest (to nearest tenth per cent) on installment purchases or on "time-plan" borrowings repaid in equal periodic installments, a simple rule-of-thumb formula may be used:

$$\text{Effective rate of interest} = \frac{2 \times \text{number of payment periods that could occur in 1 year} \times \text{interest}}{\text{Original balance due} \times (\text{number of periodic payments made} + 1)}$$

Example 1: Find the effective rate of interest to nearest tenth per cent on a loan of $300 for 6 months with interest at 6% on the original balance if it is to be repaid in full, including interest in six equal monthly installments.

$$\text{Interest} = \$300 \times \frac{6}{12} \times \frac{6}{100} = \$9$$

$$\text{Effective rate of interest} = \frac{2 \times 12 \times \$9}{300 \times (6+1)} = .103 = 10.3\%$$

Example 2: Find the effective rate of interest to nearest tenth per cent charged on an electric generator priced at $225 cash but purchased on the installment plan with a required down payment of $25 and payment of $3.03 per week for 78 weeks.

Down payment	=	$25.00
Plus installment payments of $3.03 × 78	=	236.34
Installment plan cost	=	$261.34
Less cash price	=	225.00
Interest cost	=	$36.34
Cash price	=	$225.00
Less down payment	=	25.00
Original balance due	=	$200.00

$$\text{Effective rate of interest} = \frac{2 \times 52 \times \$36.34}{\$200 \times (78+1)} = .239 = 23.9\%$$

Take special note that the original balance due is the actual amount of money for the use of which the purchaser or borrower pays an interest charge. Thus the original balance due on an installment purchase is the cash price minus any down payment that may be required. If the maturity value is used in the equation (original balance due + interest) instead of the original balance due, the computation will result in the effective rate of bank discount rather than the effective rate of interest.

Average costs, Mixture-type and General Problems

Averaging costs and diluting or increasing the strength of mixtures are problems common to all purchasing executives. Such problems may be solved by linear or simultaneous equations but in most instances an understanding of simple arithmetic computations will not only suffice but will enable the user to solve such problems in less time than it would require to establish such problems in algebraic form. Certainly it is true that the old-time corner grocer rarely needed to resort to a knowledge of algebra in determining the pounds of required ingredients in a pickling brine or in establishing an average cost per pound of a mixture of coffee beans at differing costs per pound.

Perhaps a few sample solutions will best illustrate how such problems may be solved by simple arithmetic.

Example 1: Costs are $5.25 and $6.50 per item. It is desired that the average cost be $6. What ratio of items should be purchased at each cost if the average cost is to remain at $6?

Average cost	$6.00	$6.00
Actual cost	5.25	6.50
Gain or loss	+$ .75	−$ .50

Therefore for each 50 items purchased at $5.25, 75 items may be purchased at $6.50, a ratio of 2 items at $5.25 for every 3 at $6.50.

Example 2: How many metal castings weighing 2⅜ lb. each can be cast from 266 lb. of pig iron if 1/7 of the quantity is lost in the casting process?

$$\frac{266 \times 6/7}{2\frac{3}{8}} = 96 \text{ castings}$$

Example 3: How many pieces of 7½-in. wire can be cut from a 31½ ft. roll?

$$\frac{31\frac{1}{2} \times 12}{7\frac{1}{2}} = \frac{63/2 \times 12}{15/2} = \frac{63 \times 12}{15} = 50\ 2/5 = 50 \text{ pieces}$$

Example 4: If the ratio of the weight of copper to the weight of zinc in brass is 3/2, find the weight in pounds of the copper in a piece of brass if the zinc content weighs 4.08 lb.

Though we may solve this problem by direct proportion, we also know that the copper weighs more than the zinc and we expect a larger answer than 4.08 lb. Therefore our answer cannot be 2/3 of 4.08 lb. but must be

$$3/2 \times 4.08 = 6.12 \text{ lb.}$$

Example 5: Advance estimates of a purchasing agent indicate that the present supply of 252 lb. of copper will be 45% of requirements. How many pounds of copper should be purchased?

45% of requirements = 252 lb.
100% of requirements = 252/.45 = 560 lb.
560 lb. − 252 lb. = 308 lb. required

Example 6: A new type of carton reduced shipping weight from 60 lb. to 55.5 lb. Find the per cent (to nearest tenths) of saving in shipping weight.

60 lb. − 55.5 lb. = 4.5 lb. saved

$$\frac{4.5}{60} = .075 = 7.5\% \text{ shipping weight saved}$$

Example 7: Find the minimum length in inches of steel strip required if it is desired to make 5,000 clips each 1½-in. long with scrap loss estimated at 10%.

100% − 10% = 90% remaining after scrap loss

$$\frac{5{,}000 \times 1\frac{1}{2}\text{-in.}}{.90} = 8{,}333\ 1/3\text{-in. minimum of steel strip required}$$

Trade and Cash Discounts

Goods are sold at a quoted net price, or at a list price from which a discount or discounts are taken to determine the net price. When more than one discount is allowed, each succeeding discount is taken from the remainder found after deducting the preceding discount. Two or more discounts of this type are known as chain or series discounts.

Computing the net price may be accomplished by either of two general methods:

1. By direct application of the discount series against the list price.

2. By determining the complement of the decimal equivalent of the several discounts (the cost of $1 list) and then applying this single equivalent against the list price.

When a number of invoices or a number of items within a single invoice have the same series of discounts, the second method is quicker and thus preferable.

Example: An invoice contains items A, B, and C listed, respectively at $19.95, $32.50, and $7.42 each. The total list price of the invoice is $482.40 subject to trade discounts of 25, 33⅓, and 10%. Find **(a)** the net cost of $1 list, **(b)** the single discount equivalent of the series discounts, **(c)** the trade discount allowed on the invoice, **(d)** the net price of the invoice, and **(e)** the net cost of items A, B, and C.

(a) $1.00 list
−.25 ($1.00 x .25)
$ .75
−.25 ($.75 x .33⅓)
$ .50
−.05 ($.50 x .10)
$ .45 net cost of $1 list.

Or compute by multiplying $1 by the decimal complements of each rate of discount (the complement of .25 being .75, of .33⅓ being .66⅔, of .10 being .90). Thus:

$1.00 x .75 x .66⅔ x .90 = $.45 net cost of $1 list.

It should be noted that the fractional equivalent of 25, 33⅓, and 10% and the fractional complements may be used instead of decimals. Thus in the preceding, the fractions ¼, ⅓, and $\frac{1}{10}$ or their complements of ¾, ⅔, and $\frac{9}{10}$ might have been used in obtaining $.45 as the net cost of $1 list.

(*Continued on page* 36)

No Mystery to Mathematics

(*Continued from page 35*)

(b) $1.00 list
—.45 net cost of $1 list

$ .55 discount on $1 list equivalent to .55 or 55%

(c) $482.40 × .55 = $265.32 discount

(d) $482.40 — $265.32 = $271.08 net price or directly, $482.40 × .45 = $217.08 net price

(e) Item A, $19.95 × .45 = $8.98
Item B, $32.50 × .45 = $14.62 (5)
Item C, $7.42 × .45 = $3.34

Depreciation

A decrease in the value of property that is not restored by current maintenance is depreciation.

The Federal Bureau of Internal Revenue recognizes the loss in value that may occur because of depreciation and allows the taxpayer to recover over the useful life of the property the capital invested by permitting the taxpayer to charge such loss against current taxable income if the property is used for earning income.

An estimated useful life of the property must be determined, for it is during this period of time that depreciation allowances must be taken. Often equipment used in business will have a trade-in value when it must be replaced or a scrap value at the end of its estimated life. Final disposal of the property at more than trade-in or scrap value is treated as a gain; final disposal at less than trade-in or scrap value is treated as a loss.

Once selected, any of the following optional methods of determining depreciation may not be changed unless approved by the Director of Internal Revenue:

1. The straight-line method
2. Declining-balance method
3. The sum-of-the-year's-digits method

All states do not permit use of other than the straight-line method in computing state tax liability and thus choice of method **2.** or **3.** for federal income tax purposes may require separate and different computations in completing state income tax returns.

The straight-line method is probably the most frequently used. Cost or cost less estimated scrap value is the base. Annual depreciation is found by dividing the base thus established by the estimated life (in years).

Example: By the straight-line method, find the depreciation for **(a)** the year 1959 and **(b)** the year 1960 for an automobile used 75% for business if purchased July 1, 1959 at a cost of $4,300 with an estimated useful life for business purposes of 5 years and a trade-in value of $300 at the end of the useful life for business purposes.

(a) The base for tax purposes is $4,300 — $300 = $4,000

Annual depreciation if used 100% for business would be

$$\frac{\$4,000}{5} = \$800$$

But since the automobile is used only 75% for business and for only six months in 1959, the depreciation allowable in 1959 would be:

$$\$800 \times .75 \times \frac{6}{12} = \$300$$

(b) But for the full year 1960, the depreciation allowable would be:

$$800 \times .75 = \$600$$

The declining-balance method of computing depreciation is figured on the basis of decreasing value of the property. The annual fixed rate or per cent of depreciation taken for newly acquired unused property may not be more than twice the rate that would be used were the allowance computed by the straight-line method. And if the property is newly acquired but used, the annual fixed rate or per cent of depreciation may not exceed 150% (1½ times) the rate that would be used were the allowance computed under the straight-line method. Thus the allowable maximum rate for a new machine with an estimated life of 10 years would be $\frac{1}{10} \times 1\frac{1}{2} = 3/20$ or 15%.

Example: Find the depreciation schedule for **(a)** 1959 and **(b)** 1960 at the maximum allowable by the declining-balance method for a machine used 100% for business acquired new on July 1, 1959, at a cost of $10,000 and if it is assumed it will be without value at the end of 8 years.

(a) Maximum annual depreciation rate is $\frac{1}{8} \times 2 = \frac{1}{4}$ or 25%

Since the machine is used only 6 months of 1959, the depreciation allowable for 1959 would be:

$$\$10,000 \times .25 \times 6/12 = \$1,250$$

(b) For the full year 1960, the depreciation would be based on the declining balance of $10,000 — $1,250 = $8,750 and would be:

$$\$8,750 \times .25 = \$2,187.50$$

The sum-of-the-years'-digits method of computing depreciation uses cost or cost less estimated scrap value as the base. It is assumed that actual trade-in value (or scrap value at the end of the useful life) will be equivalent to the remaining cost or cost less scrap value not yet recovered through depreciation.

In the sum-of-the-years'-digits method the constant denominator of the fraction used is the sum of all the remaining years of life, beginning with the first day of the first year of life. The declining numerator of the fraction is one smaller each year, beginning with the original number of years of life. Thus if the estimated life is 4 years, the denominator is 4 + 3 + 2 + 1 = 10, and the numerators will be 4, 3, 2, and 1 for each of the successive 4 years of life. As of date, this method of depreciation may be used only for new (unused) property.

Example: Find the depreciation schedule for **(a)** 1959 and **(b)** 1960 by the sum-of-the-years'-digits method for a piece of equipment used 100% for business if acquired new on Apr. 1, 1959, at a cost of $975 if it is assumed that it will be obsolete in 5 years and have a scrap or trade-in value at that time of $75.

(a) The base for tax purposes is $975 — $75 = $900

The constant denominator is 5 + 4 + 3 + 2 + 1 = 15

The declining numerator is 5, 4, 3, 2, and 1

The fractional parts for each full year used in computing will be 5/15, 4/15, 3/15, 2/15, and 1/15.

But since the machine is purchased on Apr. 1 of 1959, only 9 months' depreciation is allowable for 1959 and the depreciation would be:

$$\$900 \times 5/15 \times 9/12 = \$225$$

(b) And for the year 1960 the allowable depreciation would be for 3 months at 5/15 and for the remaining 9 months at 4/15 of the base. Thus,

$$\$900 \times 5/15 \times 3/12 = \$75$$
$$\$900 \times 4/15 \times 9/12 = \$180$$

And the depreciation allowable for 1960 would be $75 + $180 = $255.

Inventories

Assuming that physical count is impractical except at infrequent intervals (or perhaps never practical) a balance-of-stores ledger may be verified by weight or by cubic volume. Thus if the weight of an empty keg be known and weight per bolt contained therein be known, the quantity of bolts may be readily determined by subtracting the weight of the keg from the gross weight to determine the net weight of all the bolts and then dividing this remainder by the weight per bolt. With some items the cubic space occupied (barrels, cubic feet, gallons, etc.) may be the most practicable method of computing the inventory.

And so you may decide wisely to have less than an optimum stock on hand or more than an optimum stock on hand at a given time. It is your responsibility to determine whether in the long-run it is best to order by rail a carload (CL) or less-than-carload (LCL), to order a truckload (TL) or less-than-truckload (LTL), to ship by water, to utilize the services of the freight forwarder (e.g. fast-freight, private express, carloader, etc.), railway express, parcel post, air transport, pipeline, etc.

Another factor may influence your judgment as to the desirable quantity of any item to have on hand at a given time. Perhaps your state, county, and/or city levy use or property taxes. If, for example, the inventory as of the first Monday of March determines the base upon which the property tax is assessed, you must weigh the advantages against the disadvantages of having a small inventory as of that date.

Assuming that in view of the many factors involved you have determined the maximum, optimum, and minimum inventory per item, you may find it helpful to determine the rate of turnover of inventory.

To determine turnover of inventory for any given period:

$$\text{Stock turn} = \frac{\text{Cost of Goods Per Period}}{\text{Average Inventory at Cost for the same period}}$$

And, of course, the average inventory at cost is determined by dividing the sum total of the inventories at cost by the number of inventories taken.

Example: If the inventory at cost was $6,076 on April 1, $5,031.50 on May 1, $5,256.50 June 1, and $5,805 on June 30, find the average inventory at cost for the 3-month period.

$$\text{Av. inv. at cost} = \frac{\$6,076 + \$5,031.50 + \$5,256.50 + \$5,805}{4} = \$5,542.25$$

Example: If cost of goods is $28,672 and average inventory at cost is $11,593, what is the rate of stock turnover at cost?

$$\text{Stock turnover at cost} = \frac{\$28,672}{\$11,593} = 2.47$$

And Now, Test Your Arithmetical Skill on These 12 Problems

You'll find the answers on page 41

Problem 1: The cost per item of GA-148 part is as follows: 500 or less, $2.84; more than 500 but less than 1,000, $2.76; and 1,000 or more, $2.68. Find the delivered cost per item **(a)** if delivery charges for 500 items is $75, **(b)** if delivery costs for 750 items is $105, and **(c)** if delivery costs for 1,000 items is $120.

Problem 2: An item listed at $3.50 each is regularly bought at trade discounts of 40% and 10%. Assume that 400 items are purchased and used per month, storage space is available without added cost, insurance is 0.3% per annum, interest cost is 6% per annum, depreciation and obsolescence is not a factor but that a floor tax of $7.09 per $100 of cost will be levied on the first Monday of March. Find the net gain or loss in dollars if a 3-month supply is ordered for delivery required by the supplier in late February at an additional quantity discount of 8⅓%.

Problem 3: The use per week of a chemical is 8 bbl., the stock minimum on hand 32 bbl., and the time required for delivery 1 week. The minimum ordering policy is to provide for 6 weeks' supply at delivery date. The delivered price on less than truckload shipments is $6.05 per barrel, on truckloads of 72 barrels is $5.75 per barrel. Inventory carrying charges are estimated at ½% of cost per week. Find the net saving per annum in ordering by the truckload instead of the quantity required by the minimum ordering policy.

Problem 4: A purchasing agent is required to obtain terms of 4/10, net 30 for certain items. A manufacturer offers $1,800 of desired goods at terms of 1/10, net 30. Find the adjusted price if the manufacturer is not to lose and the agent's required term of sale are allowed.

Problem 5: Two manufacturers offer comparable equipment at prices as follows: X company quotes $150 less 33⅓%, 25%, and 6¼%. Y company quotes $160 less 40%, 20%, and 10%. Which company has lower net price?, by how many dollars?

Problem 6: The volume of a right circular cylinder may be found by use of the formula $\pi r^2 h$. If a cubic foot contains 7½ gal. approximately, find the number of gallons that can be held in a cylindrical tank with inside measurements of 5 ft. in diameter and 14 ft. in length. (Let $\pi = 3\,1/7$.)

Problem 7: The area of a circle may be determined by using the formula πr^2. The flat top of a cylindrical tank is to be repainted. If two coats are necessary, what will be the cost of the paint required at $5.25 per gallon if the diameter is 80 ft. and it is estimated that 1 gal of paint will cover 450 sq. ft? (Let $\pi = 3\,1/7$. Assume only whole gallons are purchased.)

Problem 8: In order to obtain a cash discount, a purchasing agent was authorized to give to a manufacturer a 6-month, 8 per cent ordinary interest-bearing note with a face of $845.75. Seven days later, the manufacturer sold the note to his bank at 4½ per cent bank discount. Find **(a)** the maturity value of the note and **(b)** the proceeds received by the manufacturer.

Problem 9: A machine is priced at $250 cash or 10 per cent down and $25 for 10 months. Find the effective rate of interest paid to nearest tenth per cent.

Problem 10: Find the maximum depreciation allowable for the calendar year 1960 for a machine acquired new on Jan. 1, 1959 at a cost of $1,000 with estimated life of 5 years **(a)** by the straight-line method, **(b)** the declining-balance method, and **(c)** the sum-of-the-years'-digits method.

Problem 11: On May 25, your company makes a partial payment of $200 on a net invoice of $645 with cash terms of 2/10, 1/30, net 60 and dated May 15. Find the additional payment required to pay in full on June 14.

Problem 12: If the ratio of the weight of copper to the weight of zinc in brass is 3 to 2, find the weight in pounds of the copper in a piece of brass if the zinc content is 4.08 lb.

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Air Force Warehouse Locator Control Center Serves as Industry Materials Handling Model

Oklahoma City Air Material Area Setup, at Tinker A.F.B., Is Example of How Efficient Supply Handling Can Save Money

In meeting the material needs of the Air Force, rapid and efficient handling of supplies is important. Methods which do this save the taxpayer $5 million a year, and can serve industry as models for material handling systems too. One example is at the Oklahoma City Air Material Area at Tinker Air Force Base.

As part of the logistical arm of the Air Force, O.C.A.M.A. buys, stores, and ships many prime products. These include complete aircraft, jet engines, and missiles used to maintain the world-wide operations of the Strategic Air Command.

Vast Amounts Handled

A tremendous amount of material is handled by the central receiving area—an average of 82,250 line items per month. In air freight alone, 9 to 10 million lb. per month are handled.

Two improvements at O.C.A.M.A. account for handling and storing savings: a new warehouse locator control center, and the mechanization of nine material-handling areas. Later this year a new air freight center also will be ready.

Primary key to the savings is the warehouse location control center. Here the location of an item in one of 400,000 warehouse locations can be produced quickly. Both receiving and shipping documents go through this center for processing.

I.B.M. Cards Find Locations

Warehouse locations are punched on I.B.M. cards which are filed in Simplafind push button card finding machines. A master locator card and five duplicate cards are maintained on all items. The applicable duplicate card is attached to documents processed through the office. Decks are kept up by reproduction from master card as required.

As documents from receiving go through the locator center for processing, they are screened for validity, assigned voucher number, and the locator card is attached. Document then returns to receiving via pneumatic tube where it is matched with material. Material goes either to a minimum or maximum inspection area, depending on requirements, and then to the warehouse. The document goes to property accounting.

Codes Reveal Requirements

Requirements for handling each item are revealed by codes on locator cards, indicating whether item is of a classified nature, needs special handling, etc.

On items being shipped, document arrives in central location office where locator card is attached to credit document. A mechanized chain carrier then moves document to machine section where quantity, voucher number, and type of shipment are punched. After verification against the original, document cards are machine sorted into stock-number sequence and consolidated into groups with like numbers. Warehouse next receives cards, and material is sent to packing bay, then to transportation.

Telescriber machines in locator center and connected to warehouses expedite priority material.

O.C.A.M.A. uses I.B.M. 650 tape machine in prime class accounting function. Approximately 11,000 transactions are processed daily with reject rate of approximately 2½%. On incoming materials the vouchered document is processed by the I.B.M. 650. On items shipped the I.B.M. requisition card becomes vouchered file document of the shipment.

Requests for items are received at O.C.A.M.A. by varied means—teletype, telephone, mail, transceiver. But all requests enter the O.C.A.M.A. system in the form of I.B.M. requisition cards.

Second and largest improvement at O.C.A.M.A. has been the mechanization of the receiving area and eight warehouses which it uses.

Air freight center facilities now in use are mechanized too. But under construction is a new air freight center which base officials say will be the latest word in air freight handling. Tiered conveyor belts for handling incoming and outgoing freight at the same time, television surveillance of loading, and other innovations are included in the center which is slated for completion late this year.

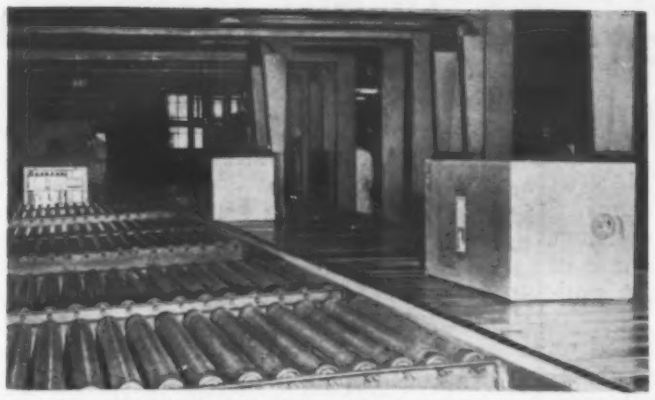
Mechanized materials handling already is accomplished mainly through conveyor lines. Materials are processed from transportation dock onto conveyor

How NS solved another special steel problem

Photos courtesy of Nuclear Systems Division, The Budd Company

RADIOACTIVE MATERIAL is handled remotely by operator from behind three-foot thick lead-glass wall. Nilcor strips, which make quick, accurate system response possible, can be seen running vertically from pulleys just above operator's hands.

CARD FILING MACHINE lets one operator locate materials in any one of 400,000 warehouse locations at air base.



IN THE WAREHOUSE material is handled automatically by conveyors. Bar pushes boxes onto proper roller.

TRUCKS taking material to storage in one of eight warehouses are loaded in minutes by 25-ft. conveyor sections.

lines. The material moves on other conveyor lines through the receiving center and out of it into conveyorized trucks without any manual effort.

Manually operated control panels select specified conveyor lines for materials. When a box passes the operator on the conveyor line, he pushes a button which corresponds to a correlating line. As the package reaches that line it is automatically shoved onto it. An electric eye measures the package and it is automatically centered on the line.

A second type of control used in the receiving center was developed by O.C.A.M.A. engineers. It depends upon the eye of the operator. As the box passes an intersecting line, the operator pushes a button and a bar shoots across (see above) the conveyor belt on a chain, pushing the box off onto the proper line. A limit switch controls the bar to keep it from continuing over the conveyor.

Goes to Inspection Area

Material goes from receiving into either a minimum or maximum inspection area. If minimum inspection only is required, it will go directly to warehouse; if maximum inspection is required, container must be opened and material segregated and counted. It then goes to warehouse.

From central receiving, material is sent to warehouse in conveyorized trucks. This system has cut round trip time from about four hours to 20 minutes. Previous method was to collect number of flats on which material had to be tied down before making trip. A mechanized 25 ft conveyor which operates on a rail slides items onto truck and vehicle is ready to go.

Towveyors Move Material

At the warehouse, material is unloaded using the same method —and another load is rolled on the truck without the truck moving. Towveyors move the material around the warehouse, but it is placed in stock manually. Overhead cranes handle large items in central receiving.

Under the new mechanized system all items go through central receiving in less than eight working hours, except on priority material which goes straight out. Under the previous system it took several times that long, with one filing clerk handling only 6,250 items.

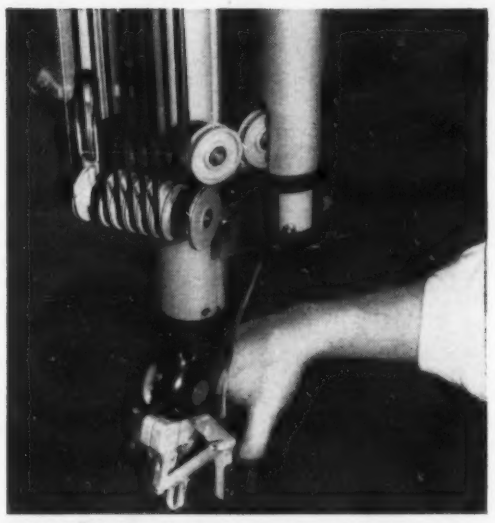
Now one clerk can handle 12,500 items or 75,000 cards easily.

Over $30,000 Savings

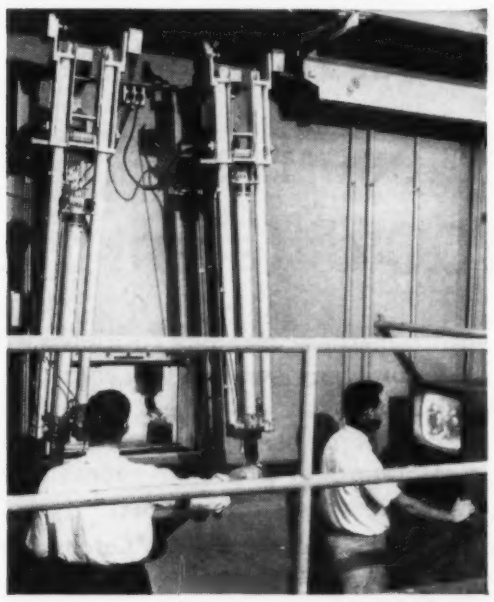
Savings of over $30,000 a year are estimated in the locator system alone. For the entire system including receiving area and warehouses, O.C.A.M.A. figures savings are about $5.7 million a year.

Other savings are manhours in receiving property in warehouse —about 60%. And time to receive, process, and make items available for issue has been reduced by 50%. Despite a 20% increase in items, 97% of documents are meeting allowed time. Previous percentage meeting time was only 61.

SPECIAL NS-ATHENIA STEEL PUTS LIFE IN ATOMIC-AGE ROBOT



HAND MOVEMENTS at operator end of master-slave system are translated without distortion, or time lag through seven Nilcor strips (shown in photo) that travel through 15-foot belt and pulley system.



OPERATOR STATION, shielded by protective wall, has television monitor screen where action inside radioactive room is reproduced as operator manipulates controls of master-slave system.

To manipulate radioactive materials with lifelike dexterity, from the other side of a three-foot thick protective wall, requires robot controls with a high degree of precision and quick response.

Ordinary cable or belt arrangements gave too much stretch between the operator's "master" hand movements and the identical "slave" movement at the other end of the system. Movements had to be translated almost instantaneously and duplicated exactly at the slave end of the system. To help solve this problem, robot system manufacturers came to the Athenia Steel Division of National-Standard to find a strip material that would serve in the belt-and-pulley arrangement of the mechanism with minimum stretch and friction and without backlashing or overshooting.

NATIONAL-STANDARD ENGINEERS at Athenia in Clifton, N. J., recommended Nilcor* strip (basically a cobalt-chromium-nickel alloy) because of its high fatigue resistance, high tensile strength and exceptionally high corrosion resistance—plus less than ⅛-inch lateral sweep per 8-foot length when laying flat without tension. Experiments with .005 Nilcor strip in the robot systems showed an 80% reduction in stretch and 90% reduction in friction over standard wire materials.

EXPERIENCED ENGINEERING HELP of this kind, for jobs requiring specialty steel and wire to meet unique applications, is available to *you* from National-Standard. For the many thousands of applications where only specialty steel or wire will solve the problem, let National-Standard engineers go to work for you. Write for additional information to National-Standard Company, Niles, Michigan.

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Another County Public Utility District On the Carpet for Non-Bid Buying

Olympia, Wash.—Another Washington Public Utility District has come in for criticism because of its purchasing procedures.

Some time ago a grand jury began investigating the activities of the Grant County Public Utility District of Ephrata because of alleged irregularities in purchasing on its Priest Rapids Dam project. The investigation is continuing.

Now the Benton County P.U.D. of Prosser has been called on the carpet by State Auditor Cliff Yelle because of several purchases it made last year. Separate items, each of less than $5,000, were purchased from a single firm without calling for bids, with payment being made in a warrant exceeding $5,000.

Because the purchase exceeded $5,000, bids should have been called, Yelle declared in a report on the P.U.D. operations for the year.

Gov't. Code Set for Buying Technical Drawings

Washington — The Pentagon has taken another step in its gradual effort to standardize items bought by the military. The Defense Department has set up a uniform specification for purchase of engineering drawings for all military procurement agencies (Mil-D-70327).

The new specifications cover all drawings bought from defense contractors in connection with production contracts and with research and development projects resulting in a design released for production. Prime contractors now must follow the same specification in buying drawings from their subcontractors and other suppliers.

It's expected to reduce the variety of requirements now common to procurement of engineering drawings by the military, and will replace 158 specs used by the military up to now to buy drawings. The new spec, however, does not pertain to actual buying of the parts shown on the drawings.

The new spec assures that "only the minimum amount of engineering detail" is bought; sets up a standardized order of precedence for design identification and uniform identification of "such things as inseparable assemblies and symmetrically opposite parts"; sets uniform requirements for materials on which drawing will be made; establishes minimum requirements for data to be placed on lists of materials or parts used with the drawings; and introduces a system of coding drawings to identify their source.

The new standard covering types and definitions of engineering drawings soon will be available from military contracting officers or on sale from the Superintendent of Documents, U.S. Government Printing Office, Washington 25, D.C.

Erie, Pa.—A serious scandal involving a public purchasing official is gradually subsiding.

Robert Monahan, 44, known as the City Purchasing Agent for Erie although his purchasing was limited to only the police and water departments, was sentenced recently to three to 12 months in Erie County Prison. He had pleaded guilty to two charges: misuse of city property and larceny by an employee.

The larceny charge was for pocketing $635 in police court fines. Monahan, who was actually an administrative assistant to Police Chief Edward Williams, handled the police court account, and fines were turned over to him.

The misuse count was brought against him for making illegal purchases of Hi-Fi equipment from a Chicago company. He used city purchase orders to buy the equipment with city money for his own personal use. The equipment was valued at $554.60.

The day before sentencing, Monahan made restitution on the property and money taken. The convicted official had 19 years service with the city in various jobs. The purchasing job was created two years ago. The post is a civil service job and now held by a temporary appointment.

Houston Council Still Plagued by 'Shell Game'

Houston, Tex.—City Council members have proposed that the city go into the oyster shell business itself to resolve the problem of frequent identical bids made by shell suppliers.

Meanwhile, Atty. General Will Wilson is studying reports on recent shell bids to see what can be done about the situation, (see P.W., Jun. 1, '59, p. 1).

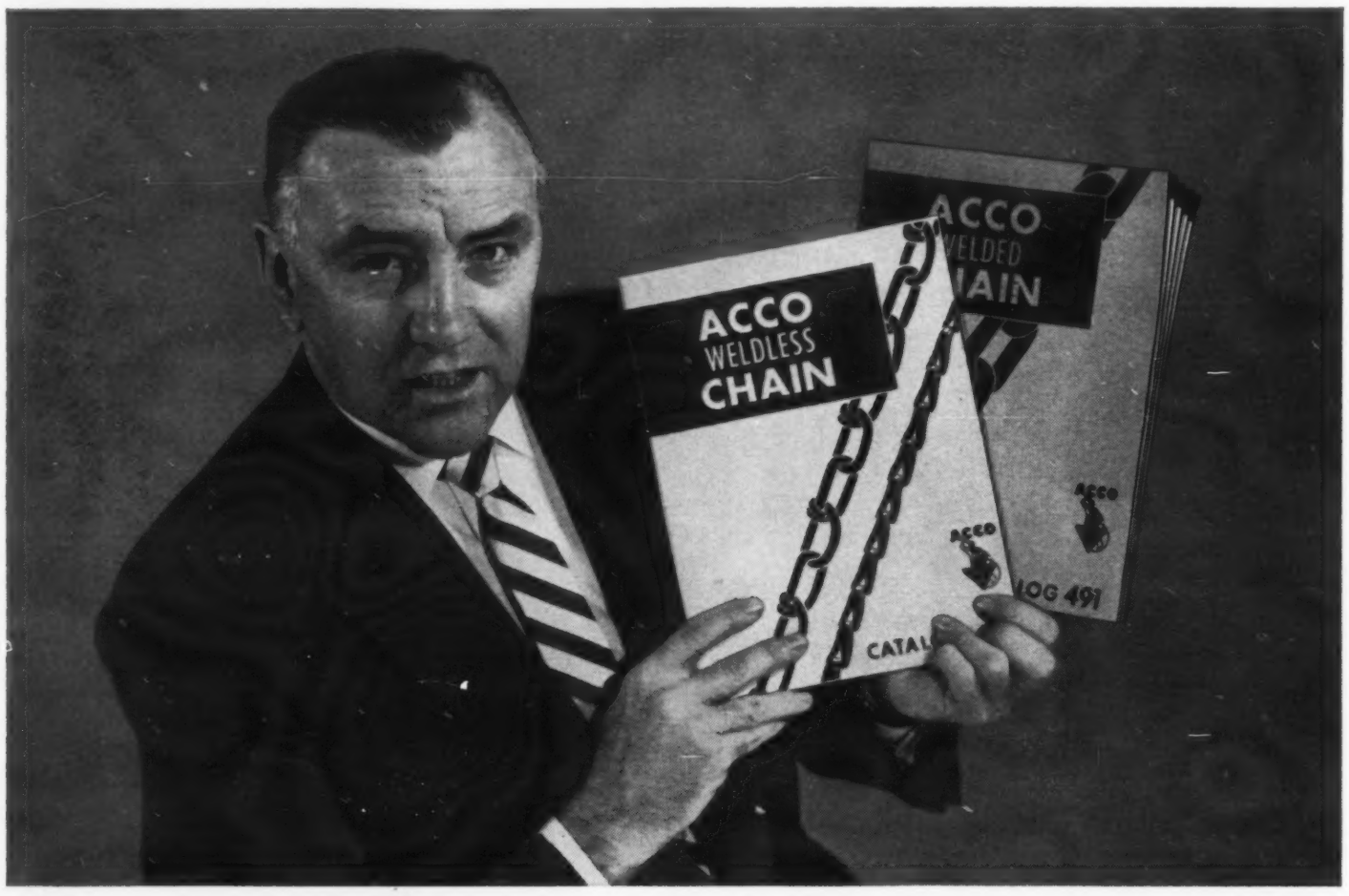
Mayor Lewis Cutrer and Public Works Director Travis Smith agree that drawing the winner's name from the hat when identical bids are submitted or splitting the business among the bidders are both ineffective measures.

Just how the city would get into the shell business was not explained, although a fair-sized shell dredge costs $250,000.

Patterson Temporarily Heads Ala. Purchasing

Montgomery, Ala. — Maurice Patterson, assistant state finance director, has been appointed temporary director of the state purchasing office.

The younger brother of Alabama Gov. John Patterson is filling a post left vacant by the death of James B. King, who died May 14.



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In addition, these catalogs contain a wide selection of chain assemblies and attachments available for use with welded and weldless chain. There is also a section describing basic chain terms and definitions and a section on how to properly measure chain and chain assemblies before you order.

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Huntington's Centralized Purchasing Saved 3 Times Its Cost in 2 Years

Huntington, N. Y.—Residents of this growing Long Island community are mighty glad centralized purchasing has come to town.

Two years old this month, the streamlined buying operation already has saved three times the amount it costs to run the six-man department. As a result, the town has benefitted from improved and expanded services and better quality supplies, material, and equipment.

Milton Whitehill, Huntington's purchasing director who started the department from scratch on June 1, 1957, gives all the credit to "the concept of centralized procurement."

"Once you stir up healthy business competition," Whitehill told PURCHASING WEEK, "volume buying made possible through centralization reaps the economies."

He said his biggest problem was "getting more people willing to sell to us.

"The smaller vendors in the community seemed to be under the impression that they couldn't afford to compete.

"For the past two years I've been using two methods to wipe out this bugaboo. First, I've been making the rounds speaking to local business groups and organizations pointing out the advantages they have in such areas as transportation costs, knowing the town's needs better than outsiders, etc.

"Secondly, I've made certain we pay our bills promptly to insure a healthy atmosphere in which to do business. This I feel helps the smaller businessman who can't afford to wait for his money."

Whitehill, a former purchase expediter for Western Electric, has built his department's stature to the point where it is now charged with preparing the entire town budget.

"In my opinion," he said, "there is no department better equipped to handle the budget than the purchasing department."

Whitehill offered the following examples of economies achieved:

- On 85% of the public works contracts in the past two years, bids have come in under the engineering department's estimates by at least 5 to 15%.
- Even with the steel situation what it is, prices for 7 ft. 6 in. traffic sign posts this year are $1.45 compared to $1.64 last year.
- Instead of buying tires under the state contract this year, the town let its own contract and came up with prices 2% lower than the state.

"I don't want people to get the mistaken impression that I'm only out for low prices," Whitehill remarked. "If I can't get price, quality, and service in one package, then I've got a headless animal and I don't want it. I want the whole package or nothing."

Winston-Salem P.A. Makes 3 Major Changes In Automobile Purchase, Replacement Policies

Winston-Salem, N. C.—City purchasing agent Aaron C. Shepherd has made three major changes in automobile purchase and replacement policies, aimed at lowering the cost of operating city cars.

The practice of trading used cars has been discontinued and all cars are now sold at auction. Results so far indicate that a better price is obtained by sale at auction than by sale through trade-in.

A second change, which partially combats the automakers' decision a year ago to eliminate discounts to governmental agencies, concerns the replacement policy for police cars.

Analysis of operating costs by the garage superintendent revealed that the city could save money by replacing police cars after 40,000 miles of use, rather than the former policy of 60,000 miles.

The study also disclosed that the city could expect to receive a higher price on the sale of police cars if sold after 40,000 miles rather than 60,000.

As a final policy switch, police cars are now purchased in quantity and once a year by the city purchasing department.

"We recently took bids on 22 police cars which should last us from July 1, 1959 to July 1, 1960," said Shepherd. "As the old cars reach the replacement point, a new car will be taken out of storage at our city garage and put in immediate use.

"This means," the city P.A. added, "that we will not have to wait until a new car is delivered after bids are taken, which in the past has taken from 30 to 60 days."

A Purchasing Agent Asks . . . Should I Buy Aluminum Or Steel Trailers?

New 1959 Exterior Post Aluminum Volume☆Van

New 1959 Smooth Panel Steel Volume☆Van

Q Which makes the most sense in our operation, aluminum or steel Trailers?

A If the products you ship are compact, and heavy in weight, an aluminum Trailer will quickly pay for itself with the extra tons it permits you to load. . . due to its weight-saving features.

If your shipments are light in weight, and bulky, the weight of the Trailer is less important. And, steel carries the lowest price tag, bears up under the toughest shipping conditions.

Q Must a Trailer be all-steel or aluminum?

A With the flexibility of Fruehauf's new 1959 interchangeable line, you can specify some components in steel, others in aluminum, to attain the weight savings you need at the price you want to pay. For instance, you can order aluminum frame crossmembers for a unit that is otherwise all-steel, for a major reduction in weight. Likewise, the roof bows, door facings, structural posts, and body panels are interchangeably steel or aluminum.

Q Does Fruehauf flexibility add to the cost?

A No—it saves you money! The actual interchanging is done on the production line . . . at mass production prices!

Q I'm no engineer. How do I go about making the best selection of components?

A Once your local Fruehauf representative knows the nature of your operation, and the price and weight you're shooting at, he will recommend a Trailer that's designed right and priced right for your specific needs. Give him a call today!

For Forty-Five Years—More Fruehauf Trailers On The Road Than Any Other Make!

FRUEHAUF TRAILERS

World's Largest Builder of Truck-Trailers

FRUEHAUF TRAILER COMPANY

10944 Harper Avenue • Detroit 32, Michigan

Send full information on the following:

☐ High Capacity Closed Vans ☐ Refrigerated Vans ☐ Platform Trailers

☐ Specialized Tank Trailers ☐ Leasing ☐ Finance Plans

Name_____

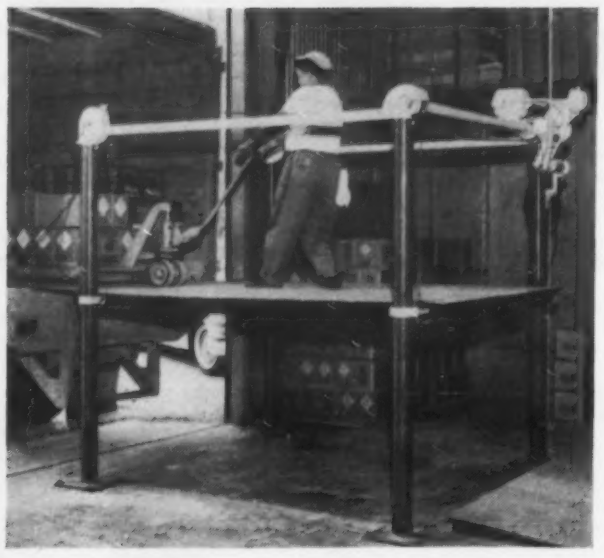
Company_____

Address_____

City_____ Zone____ State_____

Answers to Problems on page 36

1. **(a)** $2.99
   (b) $2.90
   (c) $2.80
2. Net gain of $81.31
3. TL saves $91.52 per annum
4. $1,856.25
5. Y's is lower price by $1.19
6. 2,062.5 gal.
7. $120.75
8. **(a)** $879.77
   (b) $860.64
9. 24.2%
10. **(a)** $200.00
    (b) $240.00
    (c) $266.67
11. $436.51
12. 6.12 lb.



Platform Lift

Capacity of 6,000 Lb.

Electro-Loader, an electric motor powered 6 x 8 ft.-platform lift has a capacity of 6,000 lb. It can be used for loading pallets of small packaged goods on trucks and can rise to a height of 5½ ft. It requires no excavations and can be mounted quickly or moved anywhere.

Price: $1,090 to $1,310. Delivery: 1 mo.

Globe Hoist Co., E. Mermaid Lane at Queen St., Phila., Pa. (P.W., 6/15/59)

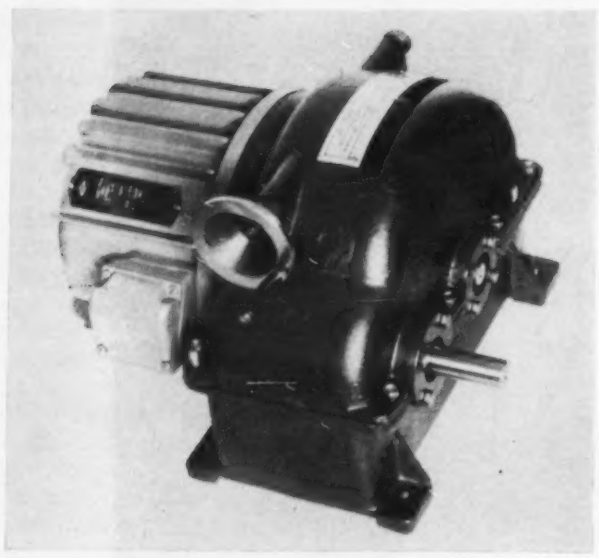
Aluminum Stepladder

All-Extruded Construction

All-extruded aluminum stepladder is designed for rugged use. The front legs are constructed of channels that are 3 in. deep and ¾ in. wide. Non-skid steps are of ribbed extrusions measuring 3 in. wide by 1½ in. high. The foot of each leg is encased with a rubber boot that prevents movement. Top is large enough to stand on, 13¼ in. by 5 in. A bucket shelf is provided on larger models. They are available in sizes 2 ft. through 8 ft.

Price: $11.25 (2 ft.) to $45 (8 ft.). Delivery: immediate.

F. A. Pilgrim Co., 4449 Lake Park Rd., Youngstown, Ohio. (P.W., 6/15/59)



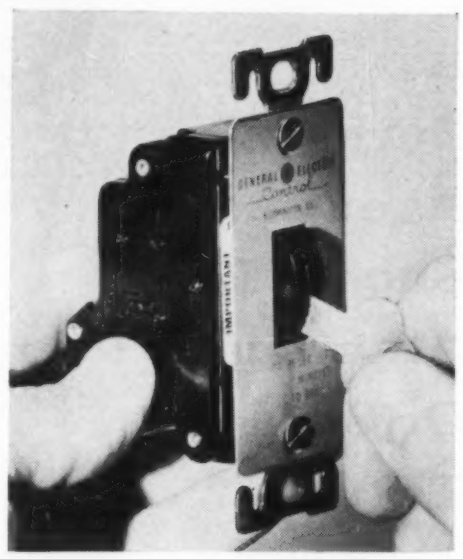
Variable Transmission

Has Constant Hp.

Variable speed transmission has a 3:1 ratio, and uses a newly developed combination timing and V-belt to provide basically constant hp. Speed can be adjusted by turning a worm gear and transmission is rated at 1.5 hp. It needs no internal lubrication and can be mounted in any position.

Price: $390. Delivery: 8 to 10 wk.

Western Mfr. Co., 3400 Scotten Ave., Detroit, Mich. (P.W., 6/15/59)



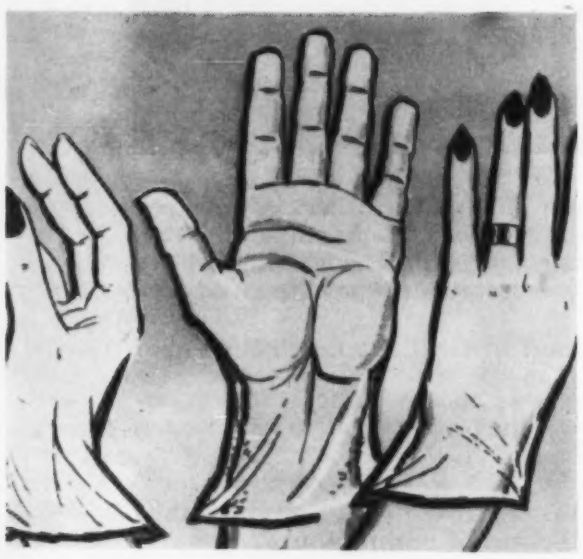
Manual Motor Starter

Is Key Operated

Use of a key in manual motor starter keeps unauthorized personnel from operating equipment. It will fit any standard single-gang outlet box and is designed for direct operation of any single-phase 115/230 v. motor up to and including 1 hp. It can be furnished in either single or double-pole designs and incorporates straight-through wiring and a plug-in heater. Indicating light is available as optional equipment.

Price: $8.50 to $10.50. (Indicating light $5.50 extra). Delivery: immediate.

General Electric Co., 901 W. Burlington Ave., Western Springs, Ill. (P.W., 6/15/59)



Disposable Gloves

Made of Polyethylene

Disposable polyethylene five-fingered gloves are strong, and skin-thin, yet are air- and water-tight. They may be used in any job where abrasion is not a factor, but complete protection at minimum cost is required. Applications include: lint-free inspections, painting, maintenance, etc.

Price: 60¢ (box of 15). Delivery: Immediate.

Olympic Glove Co., Inc., 95 Madison Ave., N. Y., N. Y. (P.W., 6/15/59)

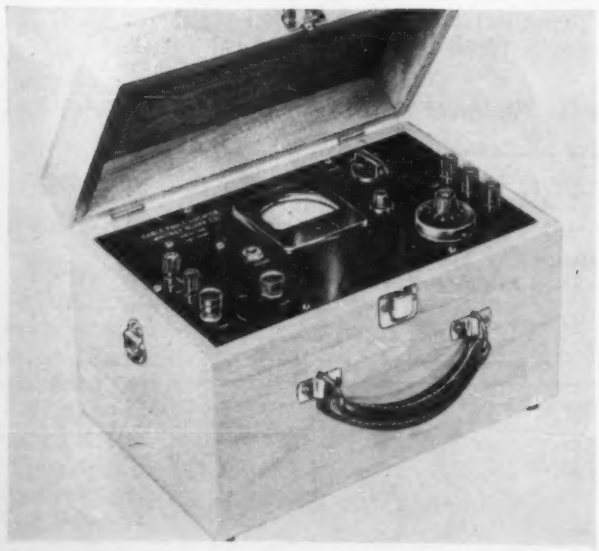
Belt Dressing

Can Be Sprayed On

Aerosol belt dressing can be sprayed on moving transmission belts. Because the workman's hands never touch the belt, application is safe. Spray is applied while drive is running and the rotation of the pulley transfers the film to the inner surface of the belt. It can be used on V, rubber, fabric, or leather belts, and is designed to prevent slip and prolong belt life. The areosol can is held 12 to 15 in. from the pulley during application.

Price: $1.50 a can. Delivery: immediate.

Graton & Knight Co., 342 Franklin St., Worcester, Mass. (P.W., 6/15/59)



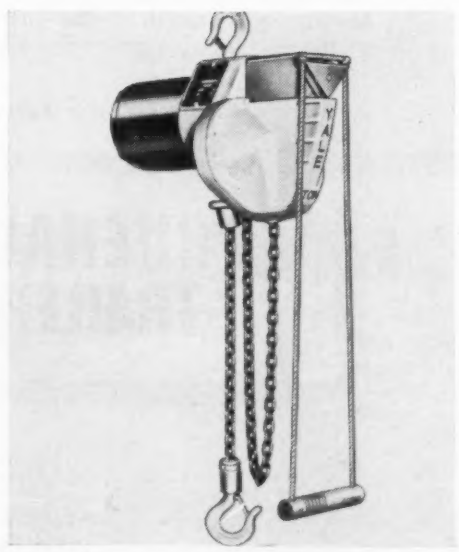
Cable Fault Locator

Easy to Operate

Cable fault locator is a completely self-contained unit said to offer greater accuracy and simpler operation than other models. It can be used for finding open conductors, shorts, grounds, high-resistance faults, crosses, and split pairs in rubber, plastic, an paper insulated cables.

Price: $450. Delivery immediate.

Whitney Blake Co., New Haven 14, Conn. (P.W., 6/15/59)



Chain Hoist

Uses Alloy-Type Link Chain

Midget King lifts through alloy-type link chain which flexes in any plane to allow picking up material not directly under the hoist itself. Models are available with ⅛-, ¼-, ½-, 1-, and 2-ton capacities. Hardened steel gears run on ball-bearing mounted shafts in an oil-bath lubrication. Upper and lower safety limit stops operate on controller shafts to prevent damage to hoisting unit and load.

Price: $188 to $465. Delivery: 2 wk. (after July 15).

Yale & Towne Mfr., Co., 11000 Roosevelt Blvd., Phila., Pa. (P.W., 6/15/59)

New Products

Another PURCHASING WEEK service: Price and delivery data with each product description.

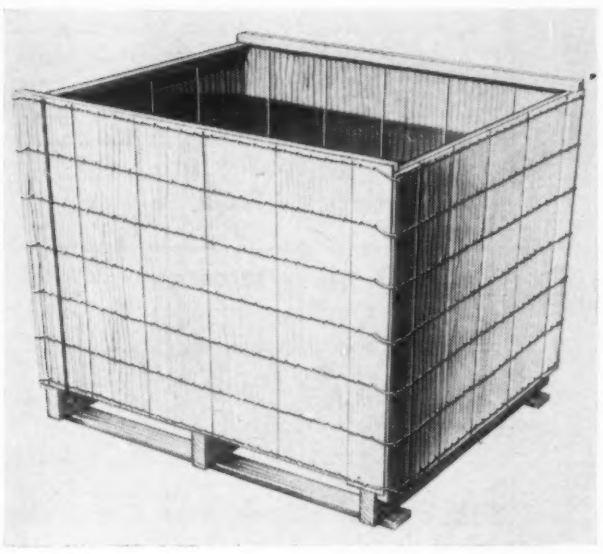
Protective Coating

Easily Removed

Zincilate WST-100 is hard, scratch-resistant coating that provides temporary protection to any polished surface while in transit or during production operations. It is easy to apply, and as shown in photo, can be removed quickly with warm water.

Price: $3.90 gal. (subject to quan. discount). Delivery: immediate.

Industrial Metal Protectives, Inc., 401 Homestead Ave., Dayton, Ohio. (P.W., 6/15/59).



Pallet Boxes

Store and Ship Flat

Expendable wire-bound pallet boxes come in 5 standard sizes, store and ship in a flat position to save space. They can handle a load of 1 ton or more, may be used for in-plant or inter-plant transportation or as storage bins. Sides can be assembled on pallet by one man in minutes.

Price: $3 to $5. Delivery: immediate.

General Box Co., 7177 Clayton Ave., Detroit, Mich. (P.W., 6/15/59)

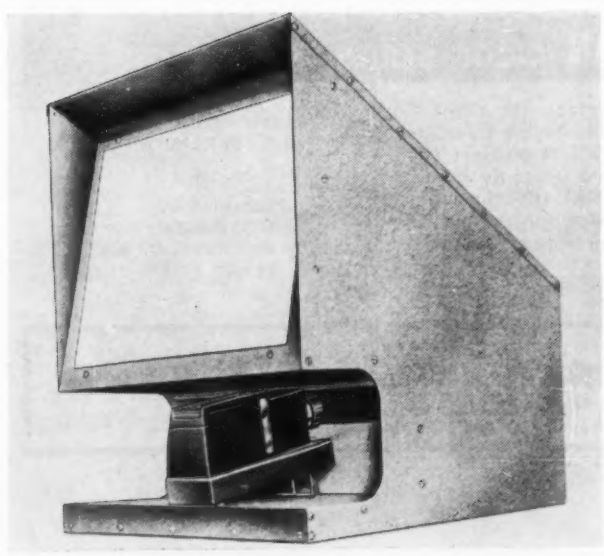
Copy Checking Device

Moves on Rollers

Check-a-Line Guide is designed for typists, proofreaders, accountants, and auditors who must copy or check printed matter, price or inventory lists, manuscripts, etc. It stays parallel to the copy because it moves on rollers. It cannot warp or get out of shape.

Price: $1.50 (8½ in.) and $2.25 (17 in.). Delivery immediate.

Kee Lox Mfr. Co., 10 Kee Lox St., Rochester, N. Y. (P.W., 6/15/59)



Microfilm Reader

Low Price Viewer

Low cost of Draftsman microfilm readers, says maker, allows location of units in various departments around the plant. The readers will accommodate D-size Filmsort Aperture cards, or conventional slides, and can be projected onto wall screens. A 300-w., blower-cooled lamp provides illumination.

Price: $75 to $125. Delivery: immediate.

Micro-Dealers, Inc ., 1560 Trapelo Rd., Waltham, Mass. (P.W., 6/15/59)

This Week's

Product Perspective

JUNE 15-21

Here are more new materials for your consideration:

• **New line of synthetic textile fibers made from polyethylene and polypropylene** is expected to find applications ranging from nautical ropes to coaxial cable braid. Six types of Royalene are available: **1.** High tenacity linear polyethylene having high strength and heat, abrasion, and chemical resistance (Type A); **2.** Fiber that resists heat and chemicals, can be made into three-dimensional fabrics (Type C); **3.** Fiber with high shrinkage in boiling water, making it useful for pronounced effects (Type E); **4.** Electrical grade for applications requiring conformity to Bell Laboratories' specifications for insulation (Type L); **5.** Polypropylene fiber for high heat resistance and resistance to creep under sustained loading (Type P); **6.** High-density copolymer polyethylene resists creep under load, retains physical properties of linear polyethylene (Type N).

Fibers are offered in round, flat, oval, or ribbon shapes, in sizes ranging from 6 mils to 35 mils and in six colors. (United States Rubber Co.)

• **Extremely pure magnesia ceramic stands up under long-term operation at temperatures up to 4,350 F.** Melting point is over 5,000 F. Material can be made into crucibles for melting high temperature metals and basic slags. It can be slip-cast, pressed, or extruded into a variety of shapes. (Corning Glass Works)

• **Shrink-fitting thermoplastic, based on cellulose acetate, will conform to the contours of supporting cores.** A 15-min. solvent dip activates the material. Shrinking takes place as it dries. Finished extruded forms such as round or rectangular tubes and special configurations or moldings, in any opaque, translucent, or transparent color are available. (Anchor Plastics Co.)

• **Small tubing of A-286, an austenitic alloy of approximately 55% iron, 25% nickel, and 15% chromium is available cold drawn.** A-286 was developed by Allegheny-Ludlum Steel Corp. primarily for applications where high strength is required at temperatures from 1,000 to 1,300 F. It is a precipitation hardening alloy and can be machined, bent, flared, and spun in the same way as other austenitic alloys. It can be welded by the shielded-arc and inert gas-arc methods. Tubing is expected to have wide use as gas turbine structural and fuel-line parts, and as aircraft, mechanical, and hydraulic tubing. (Superior Tube Co.)

• **Polyethylene copolymer injection molding compound has outstanding low temperature properties, flex life five times longer than existing poly materials, greater rigidity, and superior stress cracking resistance.** Its first major application is expected to be in the production of garbage cans and similar containers which will maintain their strength, flexibility, and long life at below-zero temperatures. (Union Carbide Plastics Co., Division of Union Carbide Corp.)

• **Heat-sealable packaging film combines transparency and chemical protection against rust.** Nox-Rust Clear-Pak has volatile corrosion inhibitors built into a Mylar film. Material may be obtained in pouches of desired size ready for loading and heat-sealing by semi-automatic or manual equipment, or in rolls up to 30 in. wide for automatic packaging machinery. (Daubert Chemical Co.)

• **Paper base epoxy-resin laminated plastic combines some performance characteristics of glass-epoxy laminates with the fabrication ease of paper-phenolic laminates.** Cost is less than glass-base epoxy laminates. Designated Grade XY-1, the material is furnished in 37 in. by 49-in. sheets from 1/32 to ¼ in.-thick. It is also available in copper clad form (XY-1 Cu-Clad) for printed circuits. Latter is expected to find wide use in computer applications where high reliability is wanted at reasonable cost in printed circuitry. Material is self-extinguishing laminate according to Underwriters' Laboratories tentative test methods. (Taylor Fibre Co.)

• • •

A major aluminum producer is putting a full head of steam this month into the promotion of aluminum for home construction. Home builders in 43 cities, with the help of Reynolds Metals Co., will have on display "House of Ease" models using aluminum in roof shingles, siding, windows, insulation, ductwork, soffit, facia, gutters and downspouts, hardware, etc.

Less than 100 lb. of aluminum goes into today's homes.

If the producers are successful in cracking what is essentially a tradition-bound industry they will have opened a tremendous new market for aluminum and in the process create new industries.

Purchasing Week Definition

Some Types of Measuring Tools

Dial Indicator—Measures dimensional limits. Indicates how much measurement is above or below a given dimension. Two basic parts make up the dial indicator: a probe and a dial. The probe is set, for example, at the required height a part should have. Then the part is brought under the probe. The part's difference from the required height shows up on the dial.

Gage Blocks—They are basic references. Block thicknesses are extremely accurate. By stacking blocks with thicknesses adding up to the required dimension, the dimension is obtained with a great deal of accuracy.

Height Gage—Measures and marks off vertical distances from a plane surface. It has a vertical scale attached to a base. Slide moves up and down the scale and has an index to indicate height on the scale above the surface. A scriber, dial indicator, or other tool can be attached to the slide.

Vernier Caliper—Permits direct reading of distance between two surfaces. Can be used for both inside and outside surfaces. It consists of a L-shaped member with a scale on the long leg of the L. Sliding member moves on the long leg and has a jaw that matches short leg of L. **(P.W., 6/15/59)**

Life in these excited states...

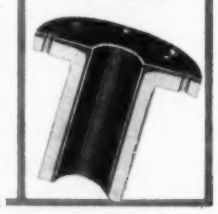
"I've chipped off all the rust, Chief, but don't the walls seem kind of thin?"

Corrosion makes profits thin, too

If corrosion and contamination are eating into your profit margin, you need chemical-resistant equipment by American Hard Rubber Company. Look today to see where you can use Ace rubber and plastic pipe, valves, pumps, tanks and special parts. It doesn't cost... it pays!

Ace chemical-resistant rubber-lined steel pipe best for high-pressure, big sizes, or abrasives. Pipe, fittings and valves 1½ to 24".

STRENGTH OF STEEL



Highly efficient *WE* pump. Capacity to 360 gpm. Cast iron, fully protected by top quality, chemical resistant hard rubber lining.

BIG GIANT OF ACID PUMPS

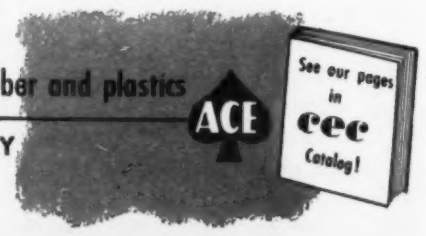
Design assistance and facilities for molding special fittings, pump parts, etc., of plastics or hard rubber. Also large hand-fabricating facilities.

CUSTOM MOLDED OR HAND BUILT?

Variety and quality to match *any* plastic piping. Riviclor PVC, Ace-Ite rubber-plastic, Parian poly, Ace Saran, Tempron high temperature nitrile, hard rubber-lined steel.

Supermarket for PLASTIC FITTINGS

ACE processing equipment of rubber and plastics



AMERICAN HARD RUBBER COMPANY
DIVISION OF AMERACE CORPORATION
Ace Road • Butler, New Jersey

How Air Conditioning Your

What Increased Efficiency Do We Need to Pay for Air Conditioning?

Factor	How to Find it	Typical Building	Your Building
Area to be air conditioned	Area sq. ft.	100,000	
Payroll for conditioned area for year — including fringes	Payroll — $	2,000,000	
Payroll per sq. ft.	$\frac{\text{Payroll}}{\text{sq. ft.}}$	$20.	
Payroll for cooling season per sq. ft.	$\frac{\text{Payroll}}{\text{sq. ft.}} \times \frac{\text{wks. season}}{50}$	$6.	
Initial air conditioning cost per sq. ft.	Estimate	$1.	
Interest at 5% — including depreciation allowance	Cost × 0.130	$0.130	
Insurance 1% and Taxes 1%	Cost × 0.02	$0.020	
Operating costs per sq. ft. at 1.5¢ kwh	$\frac{\text{No. hrs. in Season}}{400} \times .015$	$0.034	
Total costs per sq. ft. per yr.	Interest + insurance & Taxes + operating costs*	$0.184	
Increase in efficiency needed to pay for equipment	$\frac{\text{Total Costs}}{\text{Payroll per sq. ft. Cooling Season}}$	3.1%	

ONE RESPIRATOR STOPS ALL HAZARDS

ALL DUSTS* • RADIOACTIVE DUSTS
MISTS* • LIGHT SMOKE
ORGANIC VAPORS AND ALL DUSTS*
PAINT SPRAY • ORGANIC VAPORS*
AMMONIA FUMES • ACID GASES
INSECTICIDES†

SAVE MONEY, TIME, SPACE — eliminate costly special-purpose respirators with **PULMOSAN C-200 SERIES RESPIRATOR**

Stock just one basic respirator with single filter retainer cup. Select interchangeable filters to meet any or all hazards for which respirators are recommended. Filters thread instantly into retainer cup. New molded plastic clip-cap is supplied with cartridge and pre-filter combination units. All cartridges and pre-filters are independently replaceable.

Write for details.

*Approved by U.S. BUREAU OF MINES

†Accepted by U.S. BUREAU OF ENTOMOLOGY AND PLANT QUARANTINE

PULMOSAN STOPS Accidents

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1007 Washington Ave., St. Louis, Mo., CHestnut 1-9393

Plant Can Pay for Itself

Public Building Service Survey Showed That Air Conditioning Federal Buildings Saved on Taxes

"Air-conditioning increased worker efficiency 9.5% although it took an increase of only 1.5% to pay for the equipment." This was the heart of recently announced findings of a survey made by the Public Building Service of the General Service Administration.

The government agency made the study to see if air conditioning federal buildings would result in an ultimate saving for the taxpayer. G.S.A. made the study by comparing the performance of two groups of office workers doing identical jobs and working under the same conditions, with the exception of the air conditioning.

Results of carefully kept records showed the G.S.A. that the workers in the air conditioned section:

- Had a substantial increase in work production (9.5%).
- Recorded a measurable decrease in absenteeism (2.5%).
- Claimed a measurable decrease in living expenses through savings on cleaning bills, make-up, etc.
- Had a slight decrease in errors (0.9%).
- Showed higher morale and were more comfortable.

A previous survey had indicated that a 7 min. saving in time per employee per day would more than pay for the system. Translating this into terms of worker efficiency, the G.S.A. discovered that a 1.5% increase in efficiency would cover the added costs.

G.S.A. concluded, "It is safe to assume that in any other type of office work, where the rate of production is not standardized, or where no minimum requirement must be met consistently, the increase in productivity will be more than enough to pay for air conditioning through savings in employee salaries."

Is this survey typical of the possible savings offered by air conditioning, or are the government figures exaggerated? Figures developed by other independent agencies make even more elaborate claims. These figures include a claimed efficiency increase of 22% to 28% in general manufacturing, 35% among white collar workers, 24% in stenographic pools, 29% in hosiery manufacturing, and 51% in drafting rooms.

Although many factors will enter into a decision to buy air conditioning, most companies will base a final decision on increased worker efficiency. Will the increase offset the cost of the equipment? A survey has shown that the average increased efficiency needed to pay for the equipment runs about 3.1% on building under 200,000 sq. ft. and about 4.1% on larger building areas.

You can figure out the approximate increase that your plant will need by using the chart on the facing page. It is based on a formula developed by the Typhoon Air Conditioning Co., and finds the percentage increase needed by dividing payroll costs during the cooling season into the cost of owning and operating the equipment.

Figuring Payroll Costs

Payroll costs are figured per square foot of area to be air conditioned for the cooling season. Since worker efficiency is the deciding factor, it is obvious that air conditioning will pay off sooner where there are more people—in production, rather than in storage, for example. In figuring area, eliminate infrequently used space where air conditioning obviously will have little influence on productivity, and also areas where complete cooling is impractical, such as baking and open-fire areas. These places may be spot cooled for improved temperature conditions, but can seldom be fully air conditioned economically.

Payroll costs should include fringe benefits such as Social Security, unemployment, vaca-

(*Continued on page* 46)

PURCHASING WEEK

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Every Mead Bonded Container is guaranteed to equal or exceed the specifications set up by Rule 41, Uniform Freight Classification and Rule 5, National Motor Freight Classification. If Mead Bonded Containers do not meet these specifications, Mead will pay the full cost of the defective containers or rush replacements to you.

Want to know more about Mead Bonded Containers, Mead Containers research and design facilities? Wire or call collect the Mead Containers office nearest you.

MEAD *containers*

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6124 N. Milwaukee Avenue, Chicago 46, Illinois and in principal cities.
Subsidiary of **THE MEAD CORPORATION**

MEAD BONDED CONTAINERS

Air Conditioning Pays for Itself

(*Continued from page* 45)
tions, sick leave, health and accident insurance, paid holidays, etc. Such benefits usually average about 26% of base pay.

The length of the cooling season depends upon plant location, and may vary from 10 to 35 weeks. Temperature is not the only factor to be considered. Humidity and conditions inside the plant also affect the number of air conditioning weeks needed. Your local weather bureau office can help determine the correct length of the cooling season. It will average 10 wk. in the North, 15 in the Midwest, and on the Atlantic Seaboard, and 25 in the South.

What Does Equipment Cost?

The cost of owning and operating air conditioning equipment includes initial installation costs, interest on undepreciated investment, insurance, taxes, and power.

The exact cost of an air conditioning installation will, of course, depend upon the equipment you select, the type of building that you occupy. Only calculations made by professional installers can give you an exact figure. However, for purposes of a rough calculation, $1 per sq. ft. is a fairly accurate estimate for most industrial buildings.

This cost is for "package" equipment in multiple-unit installations of three to 75 ton sizes installed with limited duct work and without extensive building rewiring or auxiliary piping for heating. This type of air conditioning equipment is usually the least expensive to install in existing buildings.

The $1 per sq. ft. figure also is based on a cooling capacity of 400 sq. ft. for every ton of installed capacity. A ton of cooling capacity is equal to the amount of cooling obtained per hour by melting a ton of ice in 24 hr., or equivalent to 12,000 Btu.'s per hour. The figure of $1 per sq. ft. includes all installation work, including a water tower for recirculation. In a well insulated building, without excessive internal heat loads, installation would cost less.

Other Costs

Interest of undepreciated capital, at a 5% rate, and depreciation figured on a 10 yr. declining straight line basis, would total 13¢ per sq. ft. per year. Insurance and taxes on air conditioning investment average 1% each (according to a survey of a number of companies with extensive installations). This comes to 2¢ per sq. ft. per year.

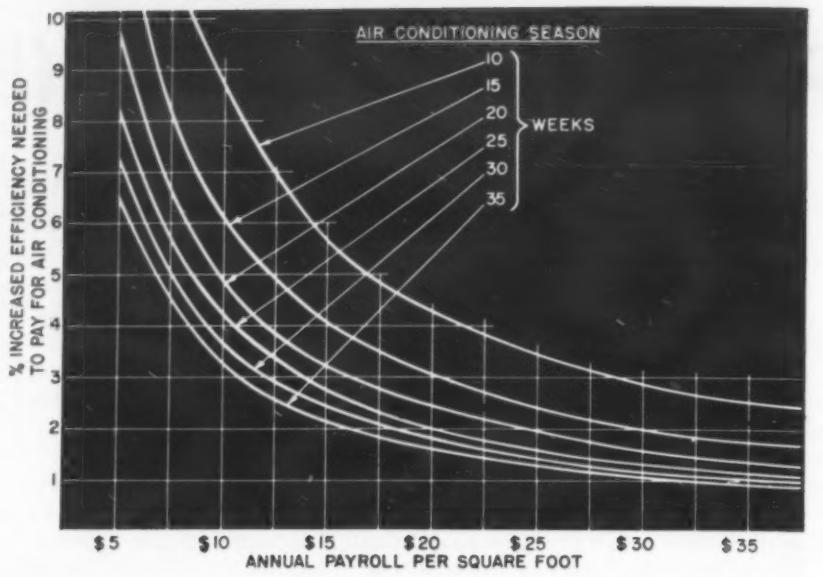
Operating costs may be estimated by figuring 1.5 kw. connected load per ton of air conditioning capacity. This includes power for fans and water pumps as well as for the compressor. In the accompanying formula, air conditioners are considered operating for 40 hr. per week during the cooling season. Assuming that each ton of capacity serves 400 sq. ft. of space, power cost per square foot per year is equal to the number of hours in the season times the hourly power rate times 1.5 divided by 400.

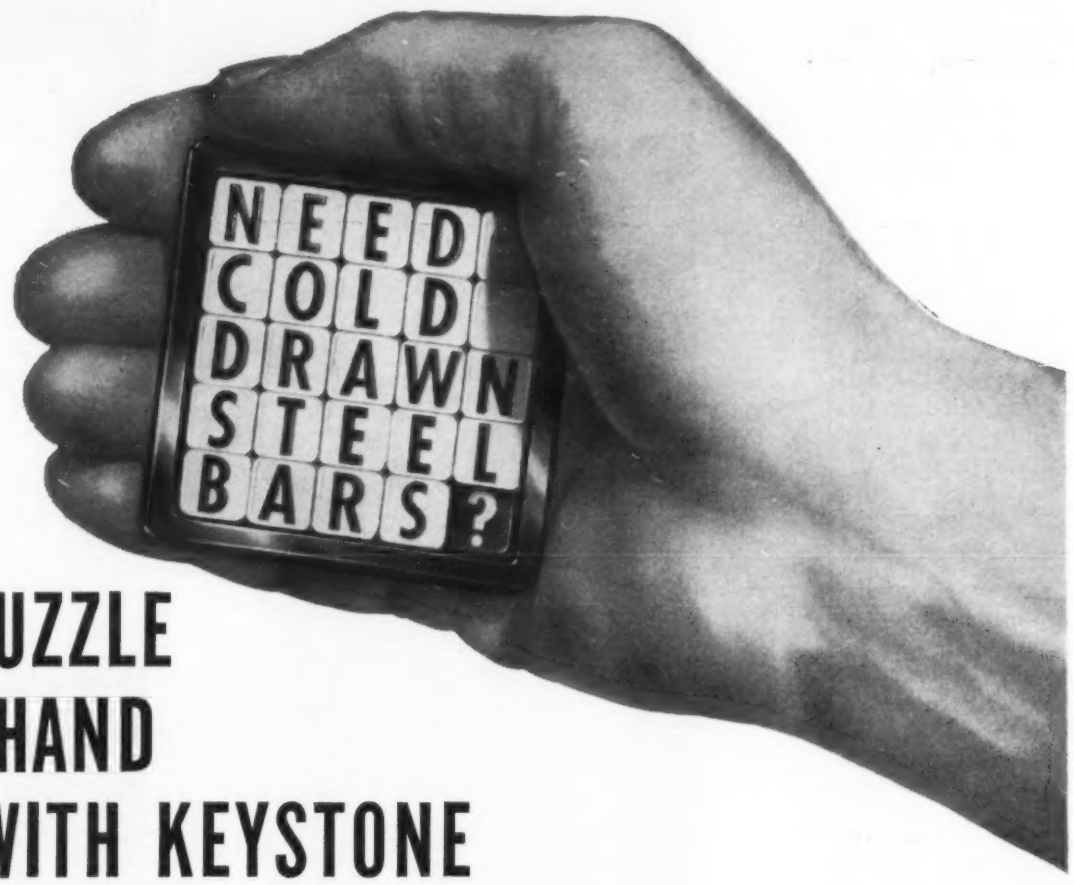
The total cost of owning and operating equipment per square foot divided by payroll costs per square foot gives you the increased efficiency needed to justify the air conditioning. This increase is needed during the air conditioning season only, not the entire year. In most cases, this increase will range between 2 and 5%.

If the formula indicates that air conditioning might be able to save your company money, but the cash needed for the investment just isn't available, then you should consider the possibility of leasing the equipment. Several manufacturers and many financial institutions have such plans available.

You can get a rough estimate of the increase that you will need in your plant by using the curves at the right.

CURVES show efficiency increase required to pay for air conditioning at varying payroll costs per square foot and varying lengths of air conditioning season. Locate your payroll costs on the bottom of the chart and follow the vertical line until it intersects the curve representing the length of your season. Needed efficiency to pay for the equipment can be found at left.





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Industrial Minerals Firm Formed To Promote B.C. Mining Output

Vancouver, B.C.—Vancouver businessmen are out to prove that British Columbia's industrial mineral needs can be filled by local production.

They have formed a new company, Industrial Minerals, Ltd., which will build and operate a small pilot plant to produce small quantities of various industrial minerals to illustrate to local consumers what B.C. producers can do.

Mining people are the first to admit that the problem of marketing is the key to solving the paradoxical situation that sees large quantities of minerals imported by B.C. consumers every year, yet the mining industry has barely scatched the surface of the province's industrial mineral potential.

With the construction of the proposed plant in the Vancouver area, it is hoped that it will expand and establish markets in B.C. and northwest United States, and that it will coordinate the production of industrial minerals in the province.

The plant facilities will include complete testing equipment and research operations in the industrial mineral field.

Other Markets Exist

In addition to the market existing for such industrial minerals as barite, sulphur, clay, limestone, gravel, gypsum, and pozzolan, company officials say other markets exist for slate, dolomite, bantonite, fly ash, mica, and prophyllite. When these markets are developed, company officials feel that large-scale production will result.

Japan Boosting Prices Of Some Steel Products

Tokyo—The Japanese iron and steel industry will boost the prices of some of its steel products at the end of this month.

An Industry & Trade Ministry announcement said that small size bars will go up $5.50 to $116.60, middle size bars up $5.50 to $130, medium size plate up $8.30 to $122.20, heavy plate up $11.00 to $144.40, and wire rod up $5.50 to $122.20.

U.S. Firm to Build Fiber Plant for Russians

Moscow—America's Von Kohorn International Corp. has grabbed another slice of chemical equipment business Russia is offering the West to help fulfill its seven-year plan.

Von Kohorn, located in White Plains, N. Y., under a $5 million contract, will supply all process equipment, engineering, and production know-how for a man-made fiber plant 250 miles south of here.

Last year, Von Kohorn obtained a contract for about the same amount to build a factory for producing three synthetic fibers. Thirty years ago the firm had constructed two rayon plants for Soviets, one of which is still standing, the other was destroyed in World War II.

"Our philosophy is that Russians have business to offer," Henry Von Kohorn told McGraw-Hill World News at his Ukraine Hotel suite. "If we don't take it, Western European countries will—witness Italy with rayon tire cord plant, Germany with two synthetic fiber plants, Britain with synthetic fiber plant and one or two acetate plants, and all within the last 12 months.

Soviets Claim Merchant Navy Doubled Last 3 Yr.

Moscow—Russia claims cargo carried by the Soviet merchant navy in international trade has more than doubled in the past three years.

Yuri Savinov, first deputy minister of the merchant marine, was quoted in the Soviet press as saying that the merchant marine has received a large number of ships and "still larger and faster vessels will be joining the fleet."

Total volume of coastal and foreign trade by Soviet ships will nearly double during the present seven year plan, he said.

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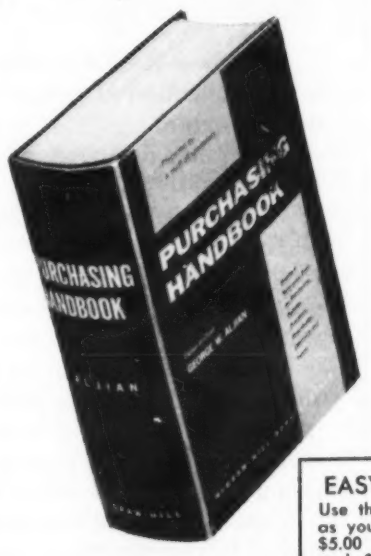

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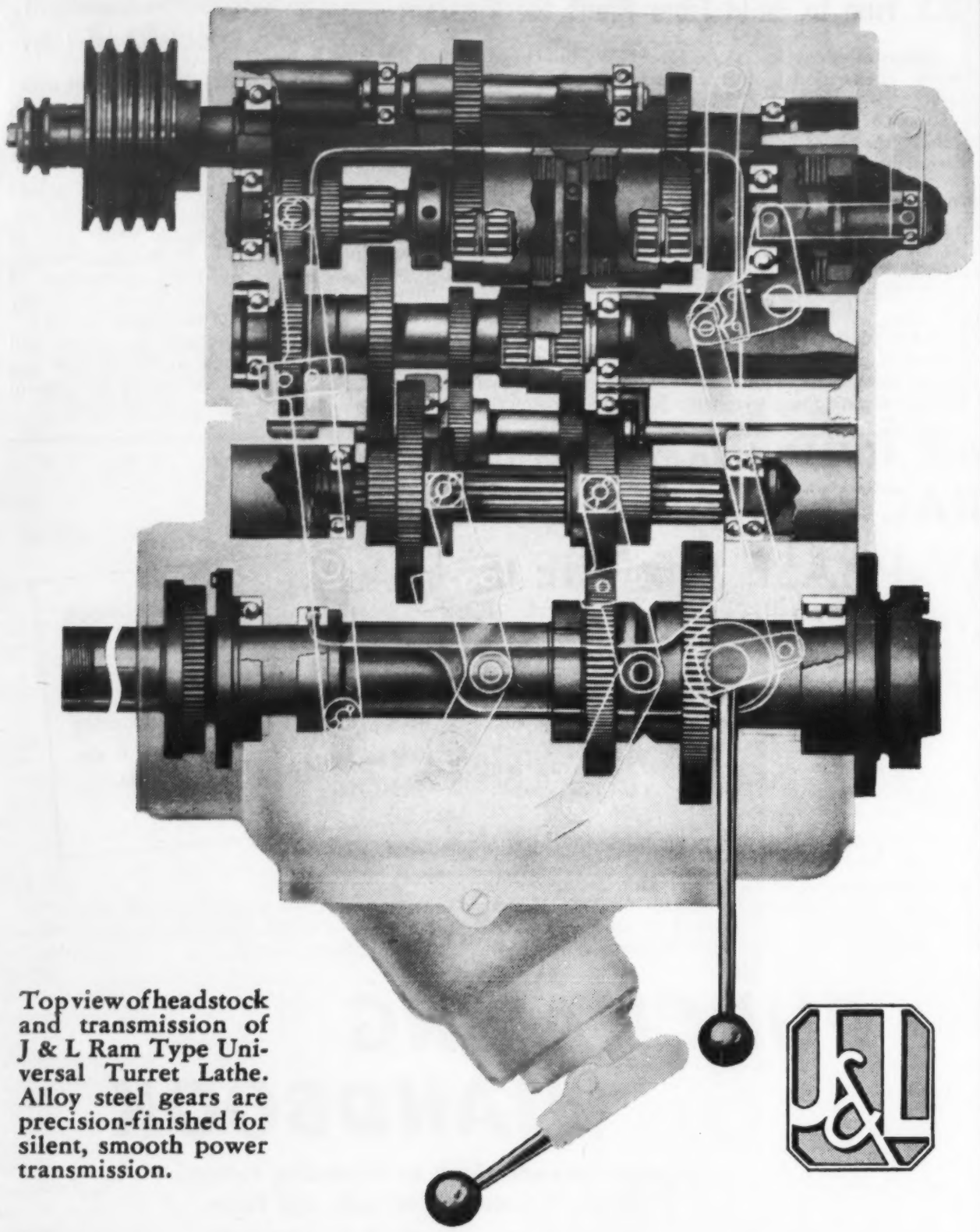

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This Week's

Foreign Perspective

JUNE 15-21

London—Britishers don't think Soviet commodity policy will hurt world markets in the immediate future.

It's believed that the British trade mission to Moscow was assured that Russian "dumping" wouldn't occur in the tin field, for example. Opinion now is that the flood of tin from the Soviet bloc which sent the market dramatically down last year largely was the result of a running-down of stocks.

At the same time, Red purchases of rubber are expected to continue, strengthening the price of that commodity. Large quantities are needed for the Soviet Union's agricultural program.

The rubber market here has been rather nervous, however, particularly following low stateside consumption figures released for April. Long-term outlook nevertheless still is considered bullish.

In tin, meanwhile, trading on the London Metal Exchange has been very steady, even after the International Tin Council's decision to increase the quantity of metal available.

But there's no sign of a general upsurge in commodity prices, despite slightly stronger conditions. Copper, lead, and zinc, especially, have been erratic pricewise. Until Western industrial recovery is strongly sustained, these metals will continue to flucuate under transitory influences.

• • •

Moscow—Russia continues to place heavy emphasis on petroleum production as part of its general program of expanded commodity output.

According to Soviet press reports, Russian engineers plan to dry up nearly six square miles of the Caspian Sea to facilitate large scale drilling in the Karadag gas and oil deposits.

The reports say that "a protective dam of sand, seven miles long, is being built . . . to encircle an area of nearly six square miles. This area will resemble a gigantic bucket from which the water will be scooped out later."

Dozens of very deep oil wells are to be drilled in the area, the reports say. And "an asphalted road, tall factories, and power transmission lines will be erected."

The project is making it possible to start large-scale exploitation a year and half ahead of schedule, the reports say.

Experts estimate that millions of tons of light oil lie below the bed of this part of the Caspian Sea.

• • •

Vienna—The United States is expected to buy 12,000 metric tons of Austrian-made staple fiber during 1959, or about 6% more than actually bought last year.

Those are the figures being quoted by "Zellwolle Lenzing A.G.," Austria's dominating state-managed cellulose and staple fiber plant.

This means that 25% of this plant's annual output will be consumed in the U. S. It puts Austria into second spot among world staple fiber exporters after West Germany, pushing Japan into third spot

Increase in quantitative output is only half of the plant's program for 1959: Quality improvement, at stable prices, is expected to bring tensile strength of Lenzing-made staple fiber up 20% and company chemists are confident that they will reach the tensile strength of cotton before long.

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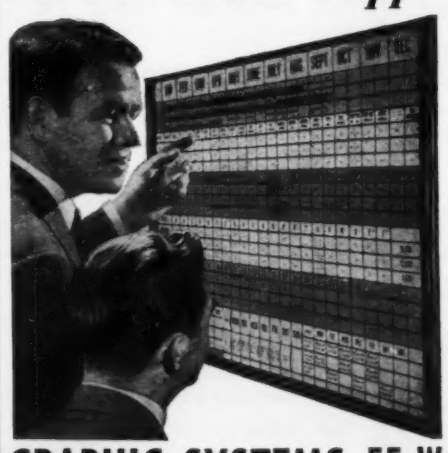

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This Week's

Purchasing Perspective

JUNE 15-21

(*Continued from page* 1)

you're going to see some slack in inventory accumulation and the current steam behind business may cool a bit. **But you know those are only temporary detours. Best months await us.**

Steel Strike—Let's try worrying about what will happen if there is not a steel strike. Fact is, you'll probably come whipping back from the lake to see what I'm going to do about some of the inventory backlog. But frankly, I think the sales manager will take care of that item with little trouble.

Tight Money—Guess you're still grousing about the higher interest they want for that loan at the bank. Seems I've heard more about tight money in New York than about the heat.

Interest rates are getting higher—just like I said they would last fall. Try to be consoled with the thought that the higher price you'll pay may be worth it if the system brakes prices and inflation for awhile.

Stock Market—You told me last month about some of the deals you have pending. It's the stock market—not the market for industrial commodities—where inflation is really parading openly these days.

Took a subway ride down to Wall Street last Friday. Didn't learn too much—except that no one knows whether a drop will come this year or next—or 1961. They did tell me a 100-point sag on the Dow-Jones average would be duck's soup to shrug off. But another 100-point rise might be worthy of more pain in your summer ulcers.

Prices—Not to be another "I told you so," but my purchasing colleagues are forecasting a continuing rise in general price levels during the second half. The optimists—like me—hold it down to 2%. The real worry-warts will settle for 4%.

Really, boss, those so-called worries above are really small potatoes. Frankly, I put them all in the category of whether the Yankees (darn 'em) will win the pennant again this year.

I'm saving the real—long term—worries until I get back. Talked it over with an economist friend of mine the other night, and he has the big ones pegged pretty well. **Such as how are we—and firms like us—going to recoup the thumping we took on South American and other export sales last year?**

My big worry may be my wife—she wants me to go in hock for a boat . . . a four-bunker to play around with on the bay. I'd like it, too, but the monthly payments scare me.

See you in a couple of weeks—with some more ideas from N.A.P.A. Remember? We cashed in on some corkers last year.

Tom

3,000 at N.A.P.A. Nat'l Convention

(*Continued from page* 1)

N.A.P.A. President Gordon B. Affleck and Pittsburgh industrialist, Mark W. Cresap, Jr., president of Westinghouse Electric.

Highlighting this morning's meeting will be a panel discussion of "Materials Management — Myth or Magic?" Taking part in the discussion will be E. F. Andrews, assistant to the vice president-purchases of Allegheny Ludlum Steel Corp.; Andrew M. Kennedy, Jr., vice president of purchases and traffic, Westinghouse Electric Corp., and George A. Renard, associate editor of the "Journal of Commerce."

This afternoon will be devoted to various commodity forums dealing with paper, steel, textiles, nonferrous metals, fuels, and containers. Buyers groups meet tomorrow afternoon following a morning P.A. session devoted to value analysis and a management portrait of the space age P.A.

Also featured on Tuesday's agenda will be the annual banquet and presentation of the J. Shipman Gold Medal Award.

A high spot on Wednesday's program will be an economic panel and an analysis of "The American Economy in the Space Age" by two McGraw-Hill economists.

Copper Strike Seen An Improbability By Industrial Leaders

(*Continued from page* 1)

would undoubtedly provide an acceptable pattern in copper. But experts also cautioned that a prolonged steel strike would pressure copper unions to come to terms on their own.

But the general opinion prevailing last week was that if steel negotiations extend past June 30, then so will copper talks—despite the contract lapse. Even the past strategy of striking one of the Big Three—Anaconda, Kennecott, and Phelps Dodge—was considered remote. Isolated walkouts at individual properties was considered the most likely.

Until last week only the International Association of Machinists had stated basic wage demands—15¢ an hr. None of the other major unions, such as the Mine-Mill, Steelworkers, and rail brotherhoods, were more specific than "substantial." Fringe benefit proposals, however, totaled a whopping $1.20 to $1.45 an hr.

Chicago—The United Rubber Workers executive board met here last week to prepare for rubber industry wage negotiations due to start later this summer.

The meeting coincided with tentative settlement of a 55-day walkout against B. F. Goodrich.

Quote Aluminum Delivered Price

(*Continued from page* 1)

to selling the metal on a delivered-price or "customer custody" basis.

Steadily increasing sales and production rates have put the industry in a price-tightening mood.

Kaiser Aluminum & Chemical Corp., first to announce the switch, said it was largely due to "questionable" trucking practices by aluminum customers. The Aluminum Co. of America and Reynolds Metals already have followed suit, with other integrated producers expected to do likewise.

The new order will apply to all aluminum products, including pig, ingot, billet, and mill products. Forgings, however, are excepted and will continue to be f.o.b. shipping point with no freight allowed.

The following examples are typical of the abuses the companies said have been occurring:

• A customer might have two plants, one 1,500 miles from a certain producer and the other 100 miles away. The purchase order would designate the most distant destination, but the customer would pick up the metal in his own trucks, deliver it to the nearest plant, and submit an invoice for the full freight allowance for the 1,500 mile destination.

• "Phantom destination points" also were used. A small fabricator in the Pittsburgh area might buy aluminum from a local plant and list a Florida destination point. He would haul out the order himself and collect freight allowance to his "phantom" plant in the South.

• A California extruder might make a deal with a New York extruder to switch purchases. The California firm would order its metal from a producer in the East while the New York firm would order from a producer in the West. Each would pick up the other's purchase and then each would obtain a good size freight allowance.

Added Discount

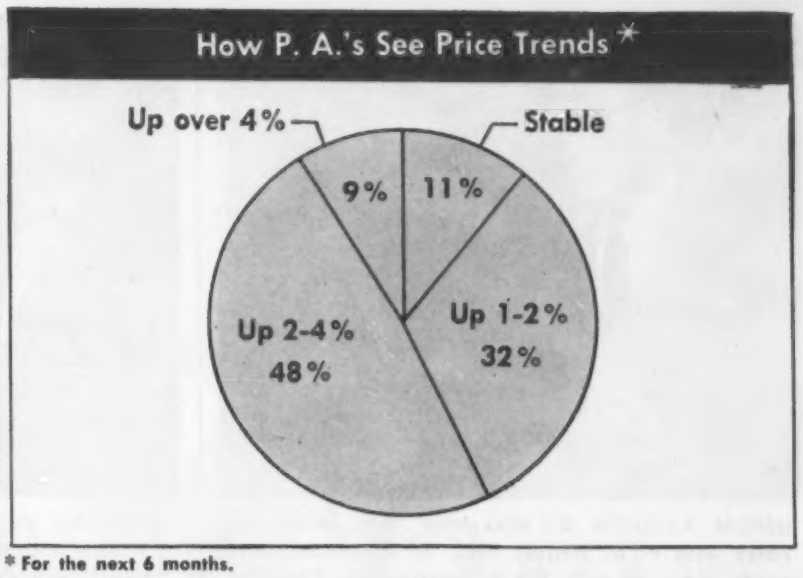
Essentially, such deals amounted to getting extra discounts. Producers also considered them sharp practices which were most inequitable to customers at large.

A Reynolds spokesman remarked: "The new terms on aluminum shipments will enable our customers to know how much it will cost anyone to buy Reynolds aluminum. In our opinion, this is the fairest way of doing business.

"This action," he added, "should relieve our customers from long-standing dissatisfaction with the old terms."

Kaiser said the new regulation is in the spirit and purpose of the original. Customers were supposed to pay transportation costs through an allowance on basic carload or truckload, but there were enough loopholes to encourage chiseling.

Reynolds, while announcing the policy change, also reported it was increasing its output of primary metal to 100% of yearly rated capacity. Other producers also have experienced spirited demand in all market areas.



* For the next 6 months.

P.A.'s See Prices Up in the Second Half

(*Continued from page* 1)

a 1-2% rise was most probable (see pie chart above for complete breakdown).

• **Specific products outlook**—When asked to name products most likely in line for boosts, P.A.'s replied in this order: Steel was number one, by far. Metal-containing products were next. Then aluminum, copper, rubber, chemicals, and paper followed in that order.

• **Price as a buying influence**—Some 62% of the respondents said that expectations of boosts had not influenced their inventory policy. Some 32% said it had a slight effect. The remaining 6% replied it had played a considerable role.

When asked to nail down what they thought were reasons for the price uptrend, P.A.'s gave first place to higher labor costs which were mentioned by 77% as a prime cause for rising prices. As one Mid-Western P.A. put it: "If labor would limit wage increases to productivity gains, more than half the battle would be won."

Higher material costs ranked second as a price boosting cause. Some 47% of those replying to the questionnaire considered it important enough to mention.

In this connection, many of the P.A.'s were just as critical toward management as they were toward labor in placing the blame for soaring material tags.

Many other respondents thought a better understanding between labor, management and government would be the only answer to the continuing price spiral.

Their opinion can best be summed up by the reply of one Southern chemical company P.A. He noted: "Any attempt at price stability must be a cooperative effort of business and labor—with government acting the role of umpire."

But other reasons were given as well for increasing prices. The "free market" reason of increased demand was noted by 27% of the respondents as an upward price factor.

Another reason noted was freight rate boosts which were pinpointed by 13% of the P.A.'s replying to the P.W. survey.

Hedging got a surprising low response as an inflationary factor—only 5% thought it was a potent force behind boosts. This ties in with the question on whether price boosts influence buying. The fact that 62% said expectations of higher prices played no part in their inventory policy reinforces the low hedging response.

Purchasing executives also were quite positive on what they thought could be the major factors that might keep the lid on any big price push. Import competition was seen by 57% as the major hope of keeping price rises within bounds.

It was closely followed by productivity. Some 51% thought productivity gains would be effective in keeping a damper on prices. Thirty-six per cent placed their hope in ample capacity as an inflation inhibitor.

Fiscal and monetary controls placed surprisingly low. Only 10% thought a balanced budget would do the trick. An even smaller 8% thought credit controls were the answer.

Air Force Tightening Review of Estimates From Contractors

(*Continued from page* 1)

tracting have resulted in the "negotiation of unreasonably high prices." The Air Force, which plans to buy $8.8 billion worth of military hardware in the upcoming year, is probably the nation's largest purchasing agency.

In Air Force contracts for aircraft, missiles, electronics, and other equipment—whether fixed-price types or cost-reimbursement—the rule is to base prices on cost estimates submitted by the contractor.

Cites 14 Cases

In a special report to Congress, G.A.O. recently cited 14 individual cases with total "overcharges" of $30 million, and blamed the Air Force for an "inadequate analysis" of the contractors' cost data.

Companies listed in the report were McDonnell Aircraft, Boeing Airplane, Lockheed Aircraft, G.-M.'s AC Sparkplug Div., General Precision Laboratory, Cessna Aircraft, Rheem Mfg., Friden, Avco's Crosley Division, Menasco Mfg. Co., Avtron Mfg., Inc., Firestone Tire & Rubber, Goodyear Aircraft, and Lambert Engineering Co.

The House Armed Services Investigating Subcommittee, which is studying the G.A.O. report, has urged the Air Force to require contractors to certify the accuracy of their cost estimates, thus making industry executives liable to prosecution in case of false claims.

Philip B. Taylor, the Air Force's assistant secretary for materiel, assured the lawmakers that the Air Force is putting into effect "closer control and surveillance" over pricing.

UNION PACIFIC's G. Wickstrom, left, compares notes with P. A. Hollar, Assn. of American Railroads v.p., at rail P.A.'s meeting in Chicago.

RAILROAD purchasing session last week found Chicago and Northwestern's C. T. Crumrine, left, conferring with M. P. Richards, of N. Y. Central.

R.R. Buyers Hit Slow Adoption of Standards

(See photo on page 1)

Chicago—Railroad purchasing executives last week hammered on the theme that railroad pokiness in standardization is costing their industry millions of dollars a year.

The 1,200 delegates to the 33rd annual convention of the Purchases and Stores Division of the American Association of Railroads heard the standardization problem described as vital to an industry that "can't afford to lose one red cent." One standardization advocate dramatized the issue by asserting that the nation's railroads could save up to $19 million a year if they would standardize design specifications on only six commonplace items.

F.A. Zimmerman, chairman of the Division's Simplification and Standardization Committee told the U. S., Canadian, and Mexican purchasing executives that ". . . $19 million is what it costs railroads to cater to individual whims and prejudices" in purchases of certain freight car, locomotive, and track parts. Zimmerman, assistant purchasing agent for equipment of the Pennsylvania Railroad, cited as one example the 15 different height specifications for freight car sides.

$19 Million for Whims

Other speeches, committee reports, and corridor conversation at the June 8-10 meeting also centered around the need for better procurement procedures and the strength of the general pickup in railroad business.

The convention keynoter, Wayne A. Johnston, president of the Illinois Central, also hit on the standardization theme.

"We cannot entirely escape the accusation leveled against our industry that we are moving too slowly and too cautiously toward standardization," Johnston said. "That slowness is costing money, and of all the industries in the United States, this is one of the last that can afford to waste a single red cent." Johnston called it common knowledge that diversity in parts for freight car construction "is costing millions." Railroads and their suppliers, he said, "must learn to apply more fully the advantages of assembly line techniques."

The Illinois Central President added that although business is a good deal better than it was last year when more than one-third of the raliroads were reporting deficits, railroad purchases are still lagging behind 1957.

Ottis O. Albritton, chairman of the division, said purchases in 1959 should show a "considerable" gain over last year if business continues to improve. Carloading thus far in 1959 are running 12% about a year ago—but, he added, this is still 11% less than 1957 before the recession.

This means, said one purchasing executive, that purchases of materials and supplies for 1959 could total "around $1.25 billion —or approximately the same as 1957." However, he added, ". . . there's just too much lead time on orders for some things right now because of this steel situation. We never have been a very heavy inventory industry anyway, and things are too uncertain to begin building up now." He agreed that increased carloadings are encouraging, but said since this is due a great deal to stepped up steel production, it could be temporary.

The feeling that railroads are holding off on heavy purchases was seconded by several suppliers attending the convention. One large Midwestern car manufacturer told PURCHASING WEEK that inquiries from railroads ". . . had been heavy earlier this year, but have tapered off now. These fellows are waiting till after a strike and just aren't ordering right now."

More Optimistic

Another large supplier was a little more optimistic in claiming that "railroad buying is more than just a flurry now—it's certainly no boom—but better than what it has been."

The convention concluded with election of two top officers: Chairman—Edward A. Bromley, vice president of purchases, Canadian National Railways; and Vice Chairman—Verl E. McCoy, chief purchasing officer of the Milwaukee Road.

Automation Stressed at Exhibition

Cleveland—Steady improvement of existing equipment rather than revolutionary new concepts was the story told by exhibitors at the Material Handling Institute Exhibition last week.

Most of the new products introduced at the show were aimed at cutting down the size of warehouse aisles and saving valuable space. Most new developments were in the truck line.

Several truck companies had new drives to show, all aimed at making the operator's job easier. On one, one pedal controls all truck movements; in another, a lever does much the same thing. Loading with new narrow-aisle trucks is accomplished from the side of the truck instead of the front. Manufacturers have come out with triple mast trucks only 6 ft. tall.

The trend in the conveyor industry is toward better ways in putting the components together rather than in any new conveyor wheel or switch. The objective: more automation.

Industry Buying More Equipment

(Continued from page 1)

the 1959 capital expenditure outlook (see P.W. Apr. 20, '59, p. 1). In March, government investigators found businessmen planned to expand such spending in 1959 by only 4% over last year.

All told, industry expects to spend $32.57 billion for all of 1959, compared to an annual rate of $31.45 billion estimated for the first six months of this year.

Among the biggest increases in capital investment are those being registered by railroads. Carriers now expect to increase spending for productive equipment by 15% over last year. Only three months ago, the roads expected no increase at all.

Actually, the rail increase—$120 million—isn't very impressive dollarwise. But the indications are significant: Last year, the rails slashed their capital spending. Now, however, with carloadings heading up, with federal aid lending a bit of moral support, and earnings a notch above 1958, the railroads are plowing back into capital equipment a bit of what they can scrape together out of the new boom.

Steel producers—who forecast a cutback three months ago—are now anticipating an increase. It's only a $90 million gain, 1959 over 1958, but it is regarded as significant.

Like everything else in the steel industry, this depends to some extent on strike eventualities. A protracted strike would cut down on what could be spent —yet a lot of the work recently announced will be in the engineering shops at strike time, and thus sheltered from the steel strike impact.

Industry Facing Possibility of Steel Strike with Average 2-Mo. Supply

(Continued from page 1)

spree, an extremely uneven distribution of inventories has developed in some industries. This makes it difficult to pinpoint which suppliers will be able to live up to pre-strike promises.

• Inventory buildup was hampered by unexpected current production requirements as well as by the buying jam which developed in the rush for steel. Virtually half of the P.A.'s responding to the PURCHASING WEEK survey said increasing production needs gnawed into stockpiles.

• Some manufacturers, with fairly simple steel needs, have stashed away as much as six to eight months, and occasionally a year's supply of vital materials.

Others—including some steel fabricators, appliance makers, farm and industrial equipment manufacturers, and various metal working plants—are confronted with the precarious future of having only two, three, or four weeks' supply of crucial material on hand. In such instances, the P.A.'s said they were unable to anticipate customer needs and soaring current demand sabotaged their stockpiles.

One major producer of farm equipment was downright worried—"There isn't a darn thing we can do now about our steel inventory . . . Wish we had two months . . . We could run on what we've got for a couple of weeks certainly, but probably not more."

Most appliance makers were considered to be in a fairly good spot with their steel supplies, but not so with two of the largest in the Midwest. As of a week ago, they were "still trying for a 45 day inventory of steel by July 1."

Here is how metals-buying P.A.'s view the strike-threatened future.

Strike-stockpiled material on hand as of June 1:

10-30 days	**3%**
30-60 days	**49%**
60-90 days	**30%**
90-120 days	**12%**
More than 4 months	**6%**

Anticipated supplies on hand as of July 1:

10-30 days	**3%**
30-60 days	**48%**
60-90 days	**34%**
90-120 days	**10%**
More than 4 months	**5%**

Asked how long it would be before the effects of a supply shut-off would be felt in their plants, most P.A.'s predicted uninterrupted production for at least 60 days.

Only a fraction (3%) said they would feel the pinch immediately. Another 4% predicted adverse effects in 10-30 days. A broad segment (42%) predicted 30-60 days, and the remaining 51% were scattered through the 60-90 days-and-up category.

Similar percentages prevailed in answers to the question of how long a strike can you "take" before a production cutback would be necessary. For 5%, this would occur in the first 10-30 days, 39% in 30-60 days, and the remaining 56% in more than 60 days and up to six months-plus categories.

While 49% said increasing production needs failed to hamper stockpiling activities, an equal number said there was interference — 35% indicating "some" effect and 13% asserting there was extensive reaction.

It was on this point that the reliability of supplier promises of July delivery during a strike came in for some close inspection. Most of the P.A.'s queried by PURCHASING WEEK indicated that supplier promises to stockpile parts and other supplies have figured into their confidence to withstand an extended steel walkout.

A few indicated doubt that these promises will stand up 100%. One chemical producer said his suppliers are now "frank to admit they are not in as good an inventory position as they would like to be . . . they will try to take care of old customers and many will accept no orders from those who have not been regulars when the strike actually hits."

Several producers of industrial truck bodies indicated they are in bad shape. One Midwest body fabricator said he would have to cut back his truck production within 15 days.

An Eastern steel fabricator's difficulty in maintaining an even backlog was illustrated by the fact that as of June 1 he had a 60 to 90 day stockpile of steel items but figured that as of July 1 this will be cut down to around 45 days or a little more.

Another Eastern fabricator said he was having various vendors make up material and hold it for shipment just before July 1, but still expected a production cutback within a month if a steel strike were to last that long.

One major valve manufacturer has bought extra steel supplies, brass rods, and forgings and expects to have a 45 day supply of such items July 1. But it will still be forced to cutback production after a month steel strike.

Key sources in various segments of the metal working industry gave this rundown as an indication of their potentiality come July 1:

Steel Foundries — Probably will not suffer much from a short steel strike. Estimate that shortages won't begin to show up in pig iron and scrap supplies for at least 45 to 60 days.

Gray Iron Foundries—Present 60 day inventory seems adequate to take care of any strike difficulty. Some have gone "a little on the plus side" of a two month supply, but are otherwise not too much concerned. Production foundries reported in better shape than jobbers.

Malleable Castings—No direct effect (in raw materials) expected for 60 to 90 days and malleaole foundries would stay at good production levels "as long as our customers can keep producing."

Stampings — Order increases showing up all along the line with strong points in houseware, farm and garden equipment, electronics, appliances, and segments of the business machine field. Stampers unable to protect themselves against the shortages except in cases where they have long range production programs scheduled in advance.

Automotive Suppliers—Degree of protection varies but most are understood to have supplies of 60 to 90 days on hand.

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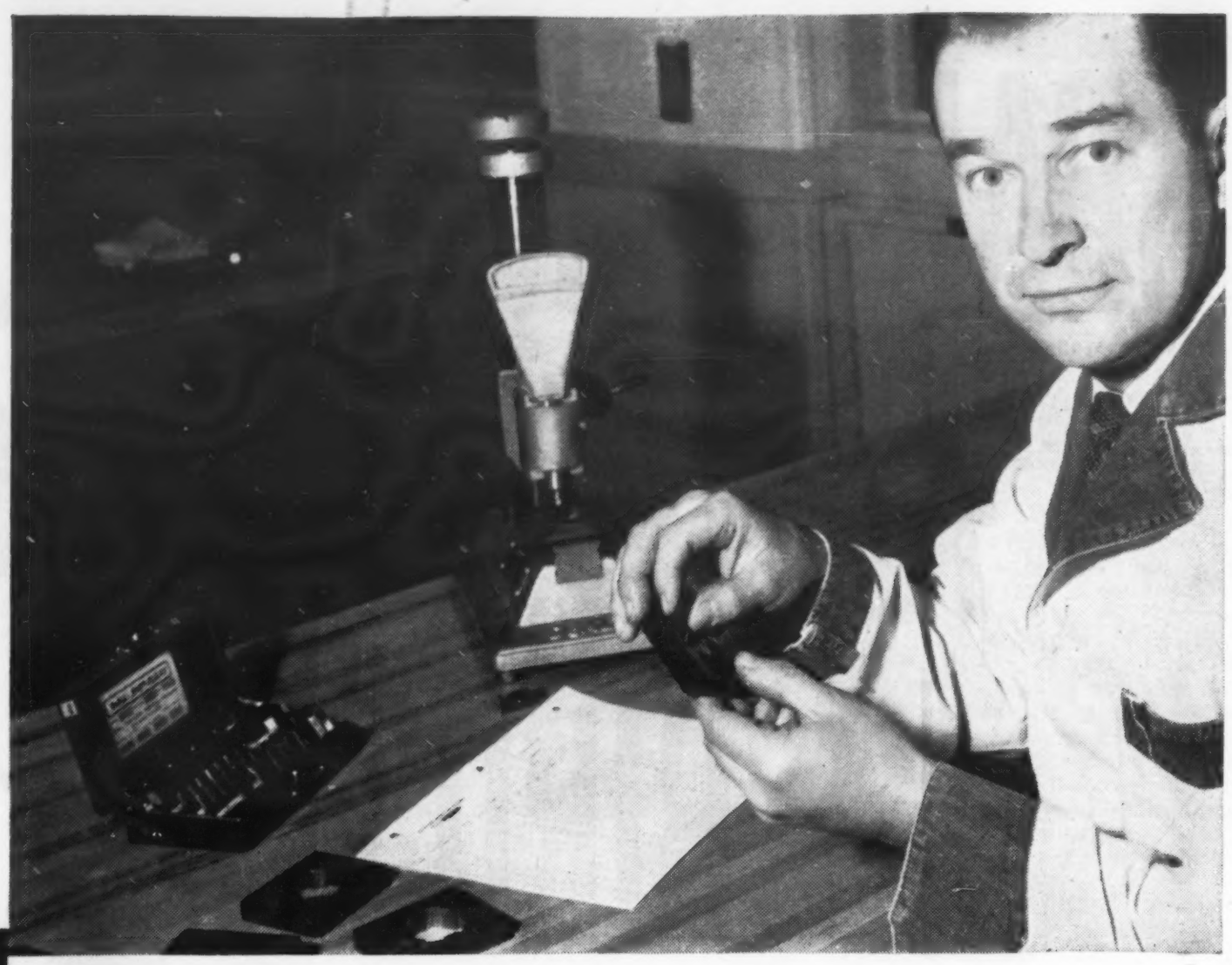

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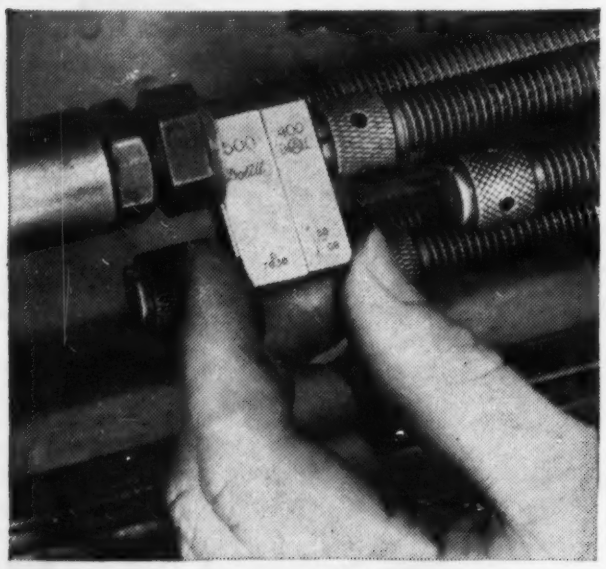

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